

INFLUENCES OF STUDENT CHARACTERISTICS
PROFILES UPON COMMUNITY COLLEGE
FACULTY PERCEPTIONS OF THEIR INSTRUCTION

By

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The characteristics of the 2,905 students admitted to Central Florida Community College between August 1971 and May 1973 are tabulated, and student characteristics profiles are developed showing the kinds of students who tend to enroll in the college's Associate of Arts and Associate of Science areas, as well as in each of the 16 major programs or fields of study offered by the college. Additionally, characteristics profiles are prepared for each of the 54 classes being taught at the college during Term III-B, 1974, utilizing the same 15 characteristics used in the 1971-1973 phase of the study. Those characteristics include sex, marital status, number of dependents, race, full-time or part-time status, father's occupation, father's education, mother's occupation, mother's education, student's round-trip commuting mileage, source of financial support, family income, total score on the Florida Twelfth Grade Test, rank in high school

graduating class, and age. The study is designed to determine how faculty, having been provided with characteristics profiles of the classes they teach, perceive the usefulness of the profiles, how the profiles can be improved, and how the profiles can be utilized in the modification of instructional strategies and in the improvement of instruction. The results of the study indicate that there are differences between the characteristics of the students who enroll in Associate of Arts programs and of those who enroll in Associate of Science programs. Associate of Arts students tend to score higher on the Florida Twelfth Grade Test, rank higher in their high school graduating classes, have parents who have higher educational attainments and who are engaged in professional, technical, or managerial occupations, tend to rely more on their parents for financial support, are more likely to be single, and are about three years younger than Associate of Science students. Within the Associate of Arts and the Associate of Science areas there are differences in the characteristics of the students who enroll in specific programs. Regarding the class characteristics profiles, virtually all of the faculty review the profiles with interest, 50% attempt to relate the data to their preconceptions of their classes' strengths and weaknesses, 66.7% feel the data indicate a need for specific changes in their instructional strategies, 30% feel the data suggest a need for other than instructional changes in their relationships with their students, 41% suggest modifications in the class profiles, and 70% indicate a desire to continue to receive class profiles at the

beginning of each semester. The most frequently made suggestions for the modification of instructional methods are increased help for individual students (51.9%), increased tutoring (45.4%), more laboratory time (29.6%), greater emphasis on self-paced instruction (29.6%), increased use of audio-visual aids (29.6%), greater use of taped lectures for review purposes (25.9%), more individual study projects (22.2%), increased class discussion (18.5%), and a greater variety of instructional methods (55.5%).

CHAPTER I INTRODUCTION

There seems little doubt that every college has as one of its primary goals the improvement of instruction within the institution. In conjunction with the continued realization of such a goal the college must provide its instructors with as much useful data and information as it can, particularly as such information relates to a better understanding on the part of the instructor regarding both the characteristics and the learning preferences of his students.

Although much is known regarding the relationships between student ability and learning, there does not exist as extensive a body of knowledge concerning the relationships between the personal and socio-economic characteristics of students and their propensity to learn better under some methods of instruction than under others. Many colleges have collected masses of socio-economic data on their students, but relatively few colleges have learned how such information can best be utilized in improving instruction.

The focus of this study was directed toward the compilation and analysis of student characteristics data for the purpose of preparing profiles of groups enrolled in all of the major fields of study at Central Florida Community College. The profiles were utilized by instructors

at the college for the purpose of better understanding the classes they teach. An integral part of this study was a summary of the views of instructors regarding the usefulness of student characteristics profiles in their instructional situations.

With a heterogeneous student population, but with a relatively small total enrollment, the college may well find it difficult to segment students by learning preference groups. Nevertheless, the instructor who possesses an understanding of the learning preferences of a majority of his students should be able to adapt his teaching style to accommodate many of them much more than would otherwise be the case.

Although the results of this study may lead to some rather tentative conclusions, it is hoped that this research will open the way for college instructors to utilize student characteristics data in the improvement of instruction. Should this approach prove feasible, it is quite conceivable that the ultimate result may be the adoption by a college of a comprehensive program of cognitive mapping as related to students possessing similar personal and socio-economic characteristics.

Statement of the Problem

The purpose of this study is to determine the potential for the improvement of instruction based on instructors' knowledge of the characteristics of their students. Through the development of student

characteristics profiles and the analysis of information from instructors regarding the usefulness of these data, the study attempts to answer the following questions:

- 1) In choosing their instructional methods, will faculty make use of student characteristics profile data?
- 2) As a result of having such data available, will the faculty change their teaching methods?
- 3) Will the faculty make changes other than those involving their teaching methodologies?
- 4) Among the disciplinary areas are there identifiable variances in the use of profile data?
- 5) What data do the faculty want included in the profile information?

Delimitations and Limitations

Delimitations

- 1) This study was confined to one community college.
- 2) The instructors who were asked about the usefulness of the profiles were those who taught during Term III-B, 1974.

Limitations

- 1) Class profiles furnished instructors were group profiles only and did not involve a comparison of individual student differences.
- 2) The data utilized in developing the profiles were limited to the following student characteristics: sex, marital status, number of dependents, race, full-time or part-time status, father's occupation, father's education, mother's occupation, mother's education, student's round-trip commuting mileage, source of financial support, family

income, total score on the Florida Twelfth Grade Test, rank in high school graduating class, and age.

Definition of Terms

Authoritarian. Favoring subjection to authority as opposed to individual freedom.

Cognitive mapping. A testing-interviewing process whereby students are classified according to their learning style preferences, with their being assigned to learning situations in which the mode of instruction is most compatible with their own cognitive preferences.

Cognitive style. Any one of several stylistic preferences or characteristic modes of behavior as-revealed by research regarding student learning preferences.

Disciplinary area. A group of courses encompassing a branch of knowledge or instruction.

Individual study. A mode of learning which permits the student to complete one or more courses with a minimum of instructional assistance.

Instruction. The imparting of knowledge or skill, both in a classroom or laboratory situation, or outside the classroom. The concept encompasses all of the relationships between teachers and students insofar as those relationships contribute to the imparting of knowledge, skill, or understanding.

Instructor-centered instruction. That type of instruction based on the instructor's judgment of what the students should learn and how

they should go about learning it.

Major field of study. Any of 16 individual fields of study comprising all of the study areas in which students are enrolled at Central Florida Community College.

Permissive instruction. That instructional mode whereby students are provided with several options for carrying out the work of a course.

Profile. A graphic or numerical representation of various characteristics of a person or group as indicated on a linear scale.

Self-paced instruction. That mode of instruction which permits each student to progress at his own pace, usually under the guidance of an instructor.

Socio-economic factor. Any one of numerous characteristics or measures of social as well as economic status.

Student-centered instruction. That type of instruction which focuses largely on student interests and concerns, with a tendency for such instruction to involve loosely-organized classes unconstrained by texts or formal assignments, informal seminars at the expense of instructor contact, and classes tied more closely to students' interests rather than to the organization of the course content.

Justification for the Study

It has long been recognized that community college students are heterogeneous and that special efforts should be made to relate classroom instruction to the needs of this diverse clientele. Too, the

literature suggests a relationship between cognitive mapping and student characteristics profiles. However, most faculty members are not aware of how student profiles can be used in improving instruction, nor have most colleges developed a program for the systematic collection, analysis, and dissemination of such data.

Many community colleges are characterized by large classes, a lack of counseling, and a teaching faculty which does not provide for heterogeneous student groups. Although the college may recognize the need for salvaging as many students as it can who otherwise might become disillusioned with their progress and their ability to adapt to the college classroom environment, its attempts to salvage such students may be sporadic at best. Thus, on the premise that instructors who are informed regarding the characteristics of their students may become better instructors, this study may be able to make a significant contribution to the science of teaching.

Further justification for the study lies in the fact that other uses may be made of the same data utilized in preparing student characteristics profiles. One use of the data would be to identify areas of study which have attracted few, if any, students possessing a particular combination of characteristics. For instance, a program may be found to be serving very few black students, female students, students from low-income families, or students representing a combination of these or

other characteristics. Thus, knowledge of this kind would enable a college to encourage the enrollment of a greater diversity of student types within specific programs.

Another use of the data would be to identify significant groups either being served minimally by the college, or not being served at all. The college then should attempt to determine whether those groups have any educational needs which should be met.

An additional use of the data would be to compare the profile of beginning students in a program with the profiles of the groups which complete various segments of the program. Such a procedure need not be used as a selective device but would enable the college to learn more about those characteristics which tend to relate positively to students' progress in a program.

This study, however, will not focus on these additional problems. Its primary thrust will be the appraisal of the potential for the improvement of instruction through the use of student profile characteristics.

As Smith, Ireby, and McCaulley (33, p. 439) have noted, "A major weakness in college teaching appears to lie in the teacher's and student's lack of recognition of each other's preferences and needs for different learning activities."

With respect to students' preferences and their needs for different learning activities, several investigators, particularly Monroe (22), have categorized students as reflecting either authoritarian or non-authoritarian traits. Trent and Medsker (37, p.218)

have noted that authoritarian traits tend to be associated more with "below-average ability, a limited educational background, restricted economic opportunities, and an authoritarian religious subculture." Concomitantly, the Educational Testing Service (38) in a recent study has found that community college students tend to be either instructor-centered or student-centered. Students who are instructor-centered tend to exhibit more authoritarian traits than do those who are student-centered. However, Monroe (22, p. 196) has noted that "there are two schools of thought regarding the authoritarian personality. Whereas one group of social psychologists attributes authoritarian traits to psychological factors in the development of personality, another group of social psychologists and sociologists argues that these traits arise from environmental conditions."

Thus, the literature suggests certain relationships between students' socio-economic characteristics and their tendency to relate more favorably to some methods of instruction than to others. It would appear that there is a need for additional research regarding both the significance of those relationships, as well as whether instructors who have been provided with student characteristics profiles not only perceive a need for changing their instructional methods, but are willing to initiate such changes.

Method

This study involved the identification of the personal and socio-economic characteristics of the 2,905 students admitted to Central

Florida Community College during the period from 1971-1973. Student characteristics data were utilized in developing a profile for each of the major programs or fields of study available at the college, as well as profiles for both the Associate of Arts and the Associate of Science study areas.

The initial phase of the study focused on whether there were significant differences between the characteristics profiles of the Associate of Arts and the Associate of Science students, as well as between the profiles of the students enrolled in the 16 major fields of study.

The second part of the study involved the development of a student characteristics profile for each of the credit classes being offered by the college during Term III-B, 1974. The purpose of this phase of the study was to determine how instructors perceived the usefulness of the profiles, whether they would like to have them modified, and in what ways they were able to use the profiles in changing their instructional techniques.

The data regarding the personal and socio-economic characteristics of the students admitted to the college between 1971 and 1973 have been taken from student admission forms, have been coded and key-punched, and are stored in the college's data banks.

As the first step in the treatment of the data a computer program was written which permitted the student characteristics data to be cross-tabulated against the 16 major fields of study; against the Associate of

Arts and the Associate of Science degree students separately; and against the entire sample of students. There were 15 student characteristics used in this study, and, utilizing the data covering those characteristics, a profile was developed for each of the study areas as well as for the Associate of Arts and the Associate of Science students. The profiles were compared tabularly, and significant differences as well as similarities were noted. This completed the first part of the study.

In the second part of the study each instructor teaching a credit class during Term III-B, 1974, was provided with the student characteristics profile relevant to his area of instruction. Also, he was given a profile of each class he was teaching, with the profiles having been completed during July 1974, utilizing the same techniques as were used in the initial 1971-73 survey. A questionnaire on student characteristics profiles was sent to each instructor, and the results were analyzed to determine the usefulness of the profiles.

Review of Literature

This section is divided into four parts. In the first part there are reviewed a number of recent studies regarding student socioeconomic characteristics and their effect on, or relationship to, college enrollment overall, as well as enrollment in specific program areas. The second part of the review includes a survey of the recent literature pertaining to cognitive mapping, particularly as it relates to instructors'

knowledge and perceptions of their students' characteristics. The third part of the review pertains to research regarding the use of the Myers-Briggs Type Indicator, and the fourth part includes recent research regarding the use of student characteristics data in the improvement of instruction.

Student Characteristics and Their Relationship to College Enrollment

Many experienced teachers are aware of the variables that tend to determine what kinds of students are likely to attend college. On the other hand, fewer teachers may have some conception of why students choose one area of study over another, particularly as their choices may be related to socio-economic factors.

Sewell and Shah (31) surveyed 100,000 Wisconsin students who graduated from high school in 1957, and followed that up with a survey of one-third of those students seven years later. They found that both socio-economic status and intelligence have impacts on the student's decisions on whether to consider college, on whether to attend college, and on whether to remain in college until graduating. For the females, socio-economic status seemed to have a greater effect than intelligence, while for the males the intelligence factor seemed to be the dominant influence. Socio-economic status appeared to have the greatest effect on who actually attended college, while intelligence was more significant in determining who will graduate.

The findings of Sewell and Shah bore out the earlier conclusions reached by Wolfle (42, p. 163). In a 1954 study he had concluded that:

The probability of enrolling in college decreases more sharply as one goes down the ability scale for children from economically and socially less favored homes than it does for children from more favored homes. After entering college, the situation changes. The student by then has overcome most home environment handicaps, and from then on his likelihood of graduating depends much more on his ability and much less on his family background.

Within the broad range of socio-economic factors and their effect on college attendance, there have been numerous studies. Sewell and Shah (32) in a 1968 follow-up study of the Wisconsin students previously cited, attempted to determine the effect of parents' education on their children's college plans. Regardless of the level of the child's intelligence, the educational achievements of both of his parents tended to affect positively his encouragement, actual attendance, and graduation from college. It appeared that, overall, the educational attainment of one parent was no more significant than that of the other. Based on socio-economic levels, however, there were some exceptions. For instance, with respect to families where the educational attainment of the parents was low to middle, any discrepancy between the educational attainments of the parents seemed to be reflected more significantly by the father's educational attainment, with that attainment exerting the greatest influence on the child's college plans. Again, it was the father's education which carried the greatest influence on high-intelligence children in families where there existed a discrepancy between parents where one had a high level of attainment and the other either a low or middle level of attainment. However, a similar discrepancy seemed to lead to the mother's educational level's exerting greater

influence on a low-intelligence child. For the entire sample, the male children were affected more by the father's level of education, while female children were equally affected by both mother's and father's educational levels. The educational attainments of both parents seemed to have a slightly greater effect on the female children than on the males.

In another study Adams and Meidam (1) found that fathers representing white-collar occupations seemed to have an influence on their children's college plans in 76% of the white-collar families, while blue-collar fathers influenced their children's college plans in only 27% of those families. They found that the first-born in white-collar families were the most likely of the children to attend college, and that the female child's likelihood of attending college decreased with each additional brother in her family. However, those investigators were not able to identify any consistent pattern of birth order differences with respect to college attendance, noting that four other studies had yielded four different results.

Regarding the socio-economic status of community college students, Schoenfeldt (29), in sampling some 400,000 students on a random basis, found that community college students were characterized either by high socio-economic status, but below-average ability, or by low socio-economic status, but above-average ability. Males were fairly evenly distributed over the entire range of socio-economic quartiles, while more females were represented by the highest socio-economic quarter than by any other quarter. The measure of

socio-economic status included such factors as family income, value of the home, number of books in the home, number of appliances, television sets, and radios in the home, the father's occupation and education, the mother's education, and whether the student had been provided with his own room at home.

In a similar study, Cooley and Becker (9) compared community college students with university students as well as with non-college persons. Socio-economically the community college students seemed to fall somewhere between the non-college group and the university group, but were more like the university group. In predicting whether a student would attend a community college the investigators identified, in the order of their importance, such factors as whether the student had his own room with a desk and a typewriter; the student's father's occupation; and the student's mother's educational level. Of lesser importance were the father's education, the number of books in the home, and the number of electrical appliances.

Cooley and Becker concluded that, although much is known regarding student ability as it relates to college attendance, not too much is known about socio-economic factors and their effect on college attendance. It was their hope that additional research regarding the latter would someday permit inferences to be made regarding which factor -- ability or socio-economic status -- is the more important.

With respect to the student's choice of a career, and thus of a specific educational program, a great deal of research has been

conducted. Roe (27) has noted that a person's choice of an occupation reflects a whole complex of genetic and experiential variables, with environment playing an important role. Roe contended that individuals seem to be attracted either to vocations which are persons oriented, such as the service, business, general cultural, or arts and entertainment fields; or to vocations which are non-persons oriented, such as organizations, technology, science, or outdoor occupations.

Drawing heavily on the work of Roe and several other researchers, Holland (13) developed a theory of cognitive styles related to vocational interests. He concluded that the occupational world is divided into six cognitive styles: realistic, investigative, artistic, social, enterprising, and conventional. Campbell (5) modified the Strong Vocational Interest Blank so that students can be measured with respect to their tendency toward any one of the six cognitive styles. After using these test items on students on four separate campuses, Johansson (15) was able to identify specific occupations relative to each of the cognitive areas.

Through such testing and associated counseling, the student may be provided with a useful means of choosing an occupational field. However, do there appear to be any relationships between the student's socio-economic background and his choice of an occupation?

Berelson and Steiner (3) have noted that lower-class youths seem to be much more restricted in their occupational choices than are upper-class youths, largely as a result of differences in education, expectations,

awareness of alternatives, and their need for immediate employment. To test the assumption that the occupational aspirations of high school graduates are related to their socio-economic status, Trent and Medsker (37) compared the occupational aspirations of 582 students representing three levels of socio-economic status, with status being based on father's occupation. Their findings, however, indicated "no statistically significant relationship between socio-economic status and occupational choice for any of the groups" (37, p. 59). They concluded that "the relationship between socio-economic status and vocational choice was nominal compared with the relationship between ability and vocational choice" (37, p. 59).

Though not denying the importance of intelligence in the occupational aspirations of college-age youths, Sewell, Haller, and Strauss (30) concluded that the social status of the family tends to have an equally strong bearing on such aspirations. On the other hand, Rosen (28), although noting that social class is consistently related to achievement motivation, cautioned against singling out any one demographic factor as the sole determinant of such motivation.

Cognitive Mapping and its Relationship to Instructor Knowledge of Student Characteristics

Although the literature regarding students' reasons for attending college as well as for their making specific vocational choices is rather extensive, not quite so much is known about preferred cognitive styles as they relate to the socio-economic characteristics of students. The

teacher, faced with a heterogeneous class, soon realizes that no one teaching method will suffice for all kinds of students. Thus, it has become apparent that students may be taught more effectively if they can be assigned to groups which are likely to be receptive to one cognitive style or another.

Cognitive styles themselves have been subjected to considerable scrutiny over the years. Ranging at least as far back as Hudelson's 1928 experiment (14) in which he concluded that class size had little bearing on the ability of students with diverse learning preferences to assimilate information, the experiments have by no means been consistent in their results. Guetzkow, Kelly, and McKeachie (11) in 1954 also found that the use of three separate teaching methods resulted in few learning differences among students of diverse intelligence and learning preferences.

More recent experiments, however, indicate that there may well be justification for regrouping students on the basis of their learning preferences. For instance, Calvin, Hoffman, and Harden (4), in experimenting with authoritarian teaching versus permissive teaching, found that the less intelligent students performed problem-solving tasks more effectively under authoritarian conditions than under a permissive teacher. The more intelligent students performed equally well under both conditions, and it was implied that brighter students tended to adjust more readily to changed conditions. Brighter students also seemed to perform better under the discussion method of instruction

than did the less intelligent students.

Students' ability to do independent study has been investigated thoroughly in recent years. Wispé (40) and Patton (24) have concluded that students who were willing to assume responsibility in independent study situations probably were independent of authority figures and were high in their need for achievement. Koenig and McKeachie (16) reached the same conclusion with respect to female students in 1959. Thus, it seems likely that some students -- probably those who are independent, in need of high achievement, and adaptable to instructional alternatives -- may prefer self-directed learning situations.

Cognitive styles as such were first identified 20 years ago by Witkin (41) in a series of experiments in which the subjects were asked to distinguish a discrete perceptual stimulus from its surrounding perceptual field. Classified as field-dependent were those whose perceptions were influenced by the total field, and classified as field-independent were those who perceived the stimulus separately from the field. As a result of these experiments, field-dependent students can be classified as those who require more direction in their studies, either from instructors or from peers. Too, such students tend to be more undecided about their careers and place greater importance on interpersonal relations. Field-independent students, on the other hand, are likely to be analytically inclined, are oriented more toward the sciences than to the humanities, prefer lectures to discussions, and are more certain of their career choices.

In an effort to identify students who are either instructor-centered or student-centered, the Educational Testing Service (38) has developed a 200-item student attitude questionnaire, with ten of the items designed to determine the student's instructional preferences. Students under 21 tended to be student-centered, and those 22 or older tended to be instructor-centered, based on a sample of 6,500 community college students in 27 colleges across the nation. Those who were heavily student-centered were enrolled in the behavioral sciences, the fine arts, the social sciences, and the humanities, whereas those who were instructor-centered were enrolled in the business programs, health services, technology, trade and industry, and the physical sciences. Not showing a strong preference for either instructional style were those students in education, engineering, public services, and natural resources.

Wasser (39) has suggested that there is a tendency for those students who share more communication channels or cognitive style elements with their teachers to be more successful, grade-wise, than those students who do not possess elements in common with their instructors. At the same time Hill (12, p. 15), one of the most avid disciples of cognitive style mapping, has noted that "the cognitive style of an individual is a relative concept, and depends not only upon the age, educational level and cultural background of the person involved, but upon the level and conditions of the educational task to be accomplished."

Instructors, aware of cognitive styles of different groups of students, thus could be encouraged to adapt their teaching methods to the learning styles preferred by those groups. Better yet, the instructor could be asked to teach only groups of students who relate best to the style through which the instructor performs best. Thistlethwaite (36) has noted that National Merit Scholars consider the instructor's enthusiasm to be of critical importance in influencing students to enter a particular field of study, and such enthusiasm is more likely to be apparent if the cognitive styles of students and instructors are matched as closely as possible.

The Myers-Briggs Type Indicator

An additional field in which rather extensive research and experimentation have been conducted is that pertaining to the relationships between personality and learning preferences. Although the findings of the Educational Testing Service (38) showed that students can be classified as either instructor-centered or student-centered in terms of their instructional preferences, an extensive series of experiments utilizing the Myers-Briggs Type Indicator (M-BTI) also has provided a basis for some conclusions in that same field.

The M-BTI is an extension of the work done by Jung in the early 1920's. Jung had compared psychological types on the basis of perception and judgment, and, according to Myers (23, p. 1), "The gist of his theory is that much apparently random variation in human behavior is actually quite orderly and consistent, being due to certain

basic differences in the way people prefer to use perception and judgment."

The M-BTI, the development of which began more than 30 years ago, makes possible the categorization of individuals on the basis of four polarized pairs: extraversion or introversion; sensing or intuition; thinking or feeling; and judgment or perception. By utilizing these polarized pairs, further classification can be implemented on a 16-grid basis, and individuals as well as groups can readily be compared with respect to their personality differences.

McCaulley (20) has noted that through such comparisons, dominant personality characteristics can be ascribed both to students enrolled in specific programs, as well as to faculty teaching in certain fields. For instance, students classified as INTP (an Introverted Thinking Type with Intuition) scored best on the Florida Twelfth Grade Test, ranked highest in 30 high schools in Pennsylvania, and preferred such college programs as those in science, medicine, and engineering. So far as faculty-dominant personality characteristics are concerned, Smith (34) has noted that instructors with certain traits (again, such as INTP) tended to receive higher student evaluations when their students were of the same type as the instructor.

On numerous occasions the reliability of the M-BTI has been tested, and McCaulley and Tonesk (21) have found that the test's internal consistence reliabilities of continuous scores fall generally in the 70s and 80s. Carlson and Levy (6) in a 1973 experiment with black students

at Howard University found a high degree of reliability with 88% of those students showing either no, or small, variations in outcome from one testing period to the next.

The M-BTI also has been used as a predictive device. For instance, Stricker, Schiffman, and Ross (35) tested students at the California Institute of Technology, and at Wesleyan, and found the test to be useful in predicting students' grades and dropouts, with even greater accuracy resulting when the M-BTI results were combined with Scholastic Aptitude Test scores and with the students' ranks in their high school graduating classes.

Although many experiments utilizing the M-BTI are still being conducted [McCaulley (20)], there are many aspects of the M-BTI results that are in need of clarification. Levy, Murphy, and Carlson (18), for instance, have noted that the sizeable differences between the black students they tested, and other groups, probably can be explained only by delving into the mores, backgrounds, and traditions of the various groups. Too, Smith (33) has noted that instructors tend to gain from understanding their personality types in relation to those of their students, and he has recommended that "future projects examining the influence of type on learning obtain data on both the instructor and his students" (33, p. 439). With this in mind, Smith (34), in a separate publication, has recommended a procedure for colleges to follow in their attempts to improve instruction. The process makes use of the M-BTI both with faculty and students and is designed to identify and bring

together both groups on the basis of similarities of personality traits and compatibilities of instructional and learning styles.

Recent Research Regarding the Use of Student Characteristics Data in the Improvement of Instruction

A comprehensive review of the Educational Resource Information Center (ERIC) literature completed in July 1974 (17) indicated very few studies of the type represented by the present research, and none which closely paralleled this study. Rayder (26), in a 1967 study conducted at Colorado State College, attempted to determine whether student characteristics had a bearing on the evaluations received by the faculty at that institution. Students were asked to rate their instructors on three seven-point continuums: (1) aloof, egocentric, restricted behavior versus friendly, understanding behavior; (2) evading, unplanned, slipshod behavior versus responsible, systematic, businesslike behavior; and (3) dull, routine behavior versus stimulating, imaginative, enthusiastic behavior. The rating scales were administered to 4,402 students in classes taught by 87 different instructors.

The younger instructors with less experience and lower academic rank consistently were rated as being more friendly, sympathetic, understanding, businesslike, stimulating, imaginative, enthusiastic, and responsible. On the other hand, the rankings of faculty varied from one department to another, and there were no indications that grades previously earned under an instructor had any bearing on that instructor's ranking. Regarding other student characteristics, such as

sex, age, major, and level of education, the study did not indicate what, if any, influence such characteristics may have had on faculty rankings.

Fink (10) has documented a 1971 study related to the use of student characteristics data in modifying the manner in which a spatial organization course was being taught. In that instance a pre-course, 14-page questionnaire and a pre-test were distributed to all members of the class. Compiled data were related to such factors as sex, age, year in college, major, related courses taken, travel preferences, and expected outcomes from having taken the course.

Data were analyzed, and by mid-term it was decided to make several changes in the way in which the course was being taught, as well as in the emphasis given to various aspects of the course. For instance, the background of the class indicated a need for more discussion of urban problems, as well as for the minimization of the use of mathematics. Although the changes were considered beneficial, Fink has questioned whether the professor might well have modified the course without utilizing such an extensive questionnaire and pre-test.

Student characteristics data have been used in planning high school curricula. Cogswell (7) has noted that in 1964 a simulation model was developed for the purpose of designing self-paced instructional programs, using students in five widely dispersed high schools as the experimental subjects. Preliminary results have indicated that students did not progress as rapidly as they were expected to, and that it became necessary to revert to more, and larger, study groups as the program was implemented.

Other studies of the use of student characteristics data in the assessment of instructional techniques include those of Cohn (8) and Lumsden (19). In the Cohn study each student's performance in a class in economic statistics was related to his grade point average, sex, major field, graduate or undergraduate status, and background in the fields of economics, mathematics, and statistics. The class included 16 undergraduate and 27 graduate students. Cohn concluded that an academic background in economics was not significant in a course in economic statistics, but that students with better mathematics backgrounds did best in his class.

In the Lumsden study a questionnaire was completed by each of 4,996 students in the Stanford University Graduate School of Business. Students were asked to evaluate their courses as well as their instructors, and student opinion of the instructor was found to be the most significant factor influencing opinion of the course. The most important characteristics of the instructors were how clearly they presented their material and how enthusiastic they were about their courses. Also important were respect for student opinion, knowing the subject, being well prepared, and being able to relate complex theories to practical applications. Of least importance were such factors as the use of visual aids, the avoidance of being sidetracked by students, and making pertinent comments on homework and tests. In connection with these evaluations it was found that the amount of time the student spent on the course was directly related to how favorably he ranked the course.

Another use of student characteristics data occurred in 1967 when the Pittsburgh Technical Health Training Institute (25) began developing programs in the fields of surgical technician, practical nurse, and nurse aide. The institute utilized such characteristics as age, marital status, highest grade completed, reading level, and scores on the Otis I. Q. Test in developing the programs, and planned to relate those characteristics to students' success both in the programs and in their work experiences.

Anderson and Tissier (2), in a 1973 study, examined the possible causal relationships between social class, school organization structure, and student aspirations for further education. Although they found that bureaucratization and alienation from school contribute to the student's level of aspiration, they concluded that of greater importance to the student's success in school are such factors as his past success, the type of program in which he is enrolled, and his socio-economic status.

Thus, although the literature reveals some recent studies which have attempted to relate student characteristics data to the assessment or the improvement of instruction, there seems to have occurred a relatively small amount of research in this field. Particularly there has been virtually no research designed to ascertain whether student characteristics profiles can be used advantageously by faculty in assessing their instructional methods and in making those changes in their teaching strategies which seem most appropriate. That is what this study will attempt to accomplish.

CHAPTER II PRESENTATION OF DATA

The survey results are presented in two sections, the first of which comprises the data related to those students admitted to the college between 1971 and 1973, and the second of which includes the data derived from the survey of classes conducted during the summer of 1974. The data in each case are presented tabularly, and the significant aspects of the data are discussed on pages adjoining the relevant tables.

Presentation of Results of the Survey of Students Admitted to the College between 1971 and 1973

In presenting the data and analyzing the results of the characteristics survey covering the students admitted to Central Florida Community College between 1971 and 1973, three separate approaches were used. These included:

- 1) An analysis of the characteristics of the entire sample of 2,905 students,
- 2) A comparison of the characteristics of those students who intended to obtain the Associate of Arts degree and those who planned to obtain the Associate of Science degree, and
- 3) An analysis of the characteristics of students enrolled in each of the 16 program or major field of study areas, with a comparison of their characteristics and those of all students enrolled in either Associate of Arts or Associate of Science programs, whichever was appropriate for the smaller group being analyzed.

Analysis of Data Covering the Entire Sample of 2,905 Students

Of the 2,905 students who entered Central Florida Community College between August 1971 and May 1973, 53% were male and 47% were female. There were established no separate classifications for widowed, separated, or divorced students, all such individuals having been designated as single. On that basis some 65% of the students were single, and 35% were married. With respect to the number of dependents per student, the survey showed that 72% of the students claimed no dependents, 9.4% had one dependent, 8.9% had two dependents, 4.6% had three dependents, and 5.1% had more than three dependents.

Regarding race, 81.2% of the students were white, 16.6% were black, and 2.2% were members of other races. Also, the tabulation showed 59.9% of the students as full time, and the remaining 40.1% as part time.

The survey divided the occupations of the students' fathers into 11 categories. Among the more significant categories were professional, technical, and managerial (19%); farming (5%); and structural (10.2%). A sizeable group of retired fathers accounted for an additional 16%.

In contrast, the mothers of the students were segmented as follows: in the professional, managerial, and technical group (13.2%); clerical and sales (15.5%); and service occupations (14.4%). The remaining 57% of the mothers were shown either with no occupation

at all (50.1%); retired (4.4%); or engaged in a variety of other occupations (2.4%).

Education-wise, some 45% of the fathers of the students had not graduated from high school; 30.9% had completed high school; 12.4% had attended college but had received no degree; 6.5% had received degrees from four-year institutions; and 4.4% had done work beyond the bachelor's degree. It is noteworthy that only .8% of the fathers had received the Associate of Arts or the Associate of Science degree.

Among the mothers of the students, on the other hand, only 21.4% had not completed high school; 53.4% had finished high school; 15.5% had attended college on a non-degree basis; 6.9% had received a bachelor's degree; and 1.4% had studied beyond the bachelor's level. As with the fathers, only a small percentage of the mothers (1.5%) had received Associate of Arts or Associate of Science degrees.

The data reveal that 24% of the students reported a family income of less than \$7,500 per year; 19.3% had a family income between \$7,500 and \$12,000; and 22.2% had a family income in excess of \$12,000. There were 34.5% of the students who were unable to estimate their family income. Insofar as their own sources of financial support were concerned, 46.8% of the students relied primarily on their parents; 38.1% were essentially self-supporting; and the remaining 15.1% received their support from the government through such sources as veterans' benefits, social security payments, pensions, and disability benefits.

With respect to their ages, 1.2% of the students were 17 or younger; 43.5% were between 18 and 20; 50% were between 21 and 44; and 5.3% were 45 or older. The average age of the incoming students was 24.5 years.

With respect to their total scores on the Florida Twelfth Grade Test (FTGT), 22.7% of the students scored less than 150 (out of a possible 495), while 26.7% scored over 350. Thus about half of the students scored between 150 and 350. It should be noted that there were no scores available on 1,291 of the 2,905 students; however, the 56% sample represented here is considered quite adequate for statistical analysis.

Insofar as their ranks in their high school graduating classes were concerned, the survey indicates that 46.2% of the students ranked in the lower 40% of their classes; 16.7% were in the 41-60 range; 13.3% were in the 61-80 range; and 23.8% ranked in the top 20% of their graduating classes.

Finally, the survey shows that 32% of the students drove more than 20 miles a day in commuting to the college.

Comparison of Associate of Arts Students and Associate of Science Students

Of the 2,905 students surveyed, 1,539 considered themselves Associate of Arts degree students, while 963 intended to obtain Associate of Science degrees. The remaining 403 did not indicate any degree preference but were included in the preceding presentation of data covering all 2,905 students.

Table 1

Characteristics of Students Entering
Central Florida Community College
August 1971 to May 1973
(N = 2,905)

Student Characteristic	Absolute Frequency	Relative Frequency (Percent)	Adjusted Frequency (Percent)
1. <u>Sex</u>			
Female	1,361	46.9	47.0
Male	1,537	52.9	53.0
Missing data	7	0.2	----
2. <u>Marital Status</u>			
Single	1,869	64.3	65.0
Married	1,007	34.7	35.0
Missing data	29	1.0	----
3. <u>No. Dependents</u>			
None	2,093	72.0	72.0
One	272	9.4	9.4
Two	258	8.9	8.9
Three	134	4.6	4.6
More than three	148	5.1	5.1
4. <u>Race</u>			
White	2,357	81.1	81.2
Black	482	16.6	16.6
Other	63	2.2	2.2
Missing data	3	0.1	----
5. <u>Student Status</u>			
Full time	1,691	58.2	59.9
Part time	1,130	38.9	40.1
Missing data	84	2.9	----
6. <u>Father's Occupation</u>			
Professional	617	21.2	28.6
Clerical	247	8.5	11.4
Service	411	14.1	19.0
Farming	109	3.8	5.0
Processing	21	0.7	1.0
Machine	77	2.7	3.6
Bench	12	0.4	0.6
Structural	220	7.6	10.2
Miscellaneous	60	2.1	2.8
None	40	1.4	1.9
Retired	346	11.9	16.0
Missing data	745	25.6	----
7. <u>Father's Education</u>			
Less than high school	1,258	43.3	45.0
High school	864	29.7	30.9
Some college	347	11.9	12.4
A. A. or A. S. degree	22	0.8	0.8
4-year degree	183	6.3	6.5
4-year degree-plus	124	4.3	4.4
Missing data	107	3.7	----

Table 1 - continued

Student Characteristic	Absolute Frequency	Relative Frequency (Percent)	Adjusted Frequency (Percent)
8. <u>Mother's Occupation</u>			
Professional	310	10.7	13.2
Clerical	364	12.5	15.5
Service	340	11.7	14.4
Farming	11	0.4	0.5
Processing	9	0.3	0.4
Machine	3	0.1	0.1
Bench	4	0.1	0.2
Structural	7	0.2	0.3
Miscellaneous	22	0.8	0.9
None	1,179	40.6	50.1
Retired	104	3.6	4.4
Missing data	552	19.0	----
9. <u>Mother's Education</u>			
Less than high school	492	16.9	21.4
High school	1,228	42.3	53.4
Some college	356	12.3	15.5
A.A. or A.S. degree	34	1.2	1.5
4-year degree	158	5.4	6.9
4-year degree-plus	33	1.1	1.4
Missing data	604	20.8	----
10. <u>Round-trip Mileage</u>			
20 miles or less	1,650	56.8	68.0
More than 20 miles	778	26.8	32.0
Missing data	477	16.4	----
11. <u>Financial Support</u>			
Parents	982	33.8	46.8
Self and family	801	27.6	38.1
Government	317	10.9	15.1
Missing data	805	27.7	----
12. <u>Family Income</u>			
Less than \$7,500	642	22.1	23.9
\$7,500 - \$12,000	518	17.8	19.3
\$12,000 and over	597	20.6	22.2
Unable to estimate	927	31.9	34.5
Missing data	221	7.6	----
13. <u>FTGT Total Scores</u>			
1- 50	82	2.8	5.1
51-100	138	4.8	8.6
101-150	145	5.0	9.0
151-200	172	5.9	10.7
201-250	216	7.4	13.4
251-300	198	6.8	12.3
301-350	232	8.0	14.4
351-400	231	8.0	14.3
401-450	151	5.2	9.4
451-495	49	1.7	3.0
Missing data	1,291	44.4	----

Table 1 - continued

Student Characteristic	Absolute Frequency	Relative Frequency (Percent)	Adjusted Frequency (Percent)
14. Rank in high school <u>graduating class</u>			
0- 40	851	29.3	46.2
41- 60	307	10.6	16.7
61- 80	245	8.4	13.3
81-100	439	15.1	23.8
Missing data	1,063	36.6	----
15. <u>Age</u>			
17 or under	35	1.2	1.2
18 to 20	1,263	43.5	43.5
21 to 44	1,453	50.0	50.0
45 or older	154	5.3	5.3

Source: Central Florida Community College admission applications,
August 1971 to May 1973.

Between the two degree areas there were virtually no differences either in the sex or racial distribution of the students. However, a comparison of single students and married students revealed that the single students comprised 75% of those in Associate of Arts programs, but only 50% of those in the Associate of Science programs.

Some 79.4% of the Associate of Arts students, and 62.4% of the Associate of Science students claimed no dependents, while only 6.8% of the Associate of Arts students as compared with 12.4% of the Associate of Science students claimed three or more dependents.

The Associate of Arts students were about twice as likely to be full time as were the Associate of Science students (76.5% vs. 37.5%), and the Associate of Arts students tended to rely more on their parents for financial support than did the Associate of Science students (51.2% vs. 37.6%). Concomitantly, the Associate of Arts students were less likely to be self-supporting than were the Associate of Science students (34% vs. 47.5%), while about 15% of each group derived their support primarily from government benefits or payments. The distribution of family income within the ranges cited earlier, i.e., less than \$7,500; between \$7,500 and \$12,000; and over \$12,000, was the same for each group of students.

Regarding the educational backgrounds of the two groups, the data show that the Associate of Arts students scored somewhat higher as a group on the FTGT than did the Associate of Science students. For instance, scoring less than 150 on that test were 21% of the Associate of

Arts students and 24.7% of the Associate of Science students. By the same token, scoring over 350 were 29.8% of the Associate of Arts students and 23.6% of the Associate of Science students. There were 56.6% of the Associate of Arts students who scored higher than 250 on the test, compared with 46.9% of the Associate of Science students.

The students' rank in their high school graduating classes follows a pattern similar to that shown by their scores on the FTGT. For instance, 42.5% of the Associate of Arts students ranked in the lowest 40% of their high school graduating classes, compared with 53.1% of the Associate of Science students. By the same token, ranking in the top 20% of their high school graduating classes were 28.9% of the Associate of Arts students and 14.5% of the Associate of Science students.

With respect to the educational backgrounds of the students' parents, it is noteworthy that not having completed high school were 39.7% of the fathers of the Associate of Arts students, and 50.6% of the fathers of the Associate of Science students. In this same category were 17.7% of the mothers of the Associate of Arts students, and 24.8% of the mothers of the Associate of Science students. Having had some college training (but not necessarily having received a degree) were 26.8% of the fathers of the Associate of Arts students and 21.2% of the fathers of the Associate of Science students. Again, in the same category were 26.5% of the mothers of the Associate of Arts students and 25.2% of the mothers of the Associate of Science students.

Regarding the occupations of the parents of the students, there were several differences worth noting. For instance, the fathers of the Associate of Arts students were more likely to be employed in a professional, technical, or managerial capacity (30.3%) than were the fathers of the Associate of Science students (25.7%). Also, fathers of Associate of Arts students tended more toward clerical occupations (12.3%) than did the Associate of Science students' fathers (9.6%). On the other hand, the fathers of the Associate of Science students seemed a bit more inclined toward agricultural and machine occupations than were the Associate of Arts students' fathers.

With respect to the students' mothers, those of the Associate of Arts students were more often employed in a professional, technical, or managerial capacity (15.3% vs. 10.3%) or in a clerical occupation (16.1% vs. 14%). The differences within other occupations were insignificant. However, the mothers of Associate of Arts students were more often employed in some capacity than were the mothers of the Associate of Science students (47.6% vs. 41.4%).

Finally, 34.4% of the Associate of Arts students commuted more than 20 miles each day, compared with 28.7% of the Associate of Science students. On the other hand, the Associate of Science students were older, with their average age being 25.9 compared with an average age for the Associate of Arts students of 22.7.

Table 2

Characteristics of Students
Enrolled in Associate of Arts Programs
1971-73 at Central Florida Community College
(N = 1,540)

Student Characteristic	Absolute Frequency	Relative Frequency (Percent)	Adjusted Frequency (Percent)
1. Sex			
Female	726	47.1	47.2
Male	813	52.8	52.8
Missing data	1	0.1	----
2. Marital Status			
Single	1,149	74.6	75.0
Married	382	24.8	25.0
Missing data	9	0.6	----
3. No. Dependents			
None	1,222	79.4	79.4
One	119	7.7	7.7
Two	95	6.2	6.2
Three	44	2.9	2.9
More than three	60	3.9	3.9
4. Race			
White	1,252	81.3	81.4
Black	248	16.1	16.1
Other	39	2.5	2.5
Missing data	1	0.1	----
5. Student Status			
Full-time	1,151	74.7	76.5
Part-time	354	23.0	23.5
Missing data	35	2.3	----
6. Father's Occupation			
Professional	372	24.2	30.3
Clerical	151	9.8	12.3
Service	232	15.1	18.9
Farming	52	3.4	4.2
Processing	12	0.8	1.0
Machine	35	2.3	2.9
Beuch	4	0.3	0.3
Structural	134	8.7	10.9
Miscellaneous	30	1.9	2.4
None	18	1.2	1.5
Retired	186	12.1	15.2
Missing data	314	20.4	----
7. Father's Education			
Less than high school	595	38.6	39.7
High school	502	32.6	33.5
Some college	211	13.7	14.1
A. A. or A. S. degree	10	0.6	.7
4-year degree	103	6.7	6.9
4-year degree-plus	77	5.0	5.1
Missing data	42	2.7	----

Table 2 - continued

Student Characteristic	Absolute Frequency	Relative Frequency (Percent)	Adjusted Frequency (Percent)
8. <u>Mother's Occupation</u>			
Professional	202	13.1	15.3
Clerical	212	13.8	16.1
Service	186	12.1	14.1
Farming	6	0.4	0.5
Processing	5	0.3	0.4
Machine	2	0.1	0.2
Bench	3	0.2	0.2
Structural	2	0.1	0.2
Miscellaneous	9	0.6	0.7
None	648	42.1	49.1
Retired	43	2.8	3.3
Missing data	221	14.4	----
9. <u>Mother's Education</u>			
Less than high school	227	14.7	17.7
High school	718	46.6	55.9
Some college	195	12.7	15.2
A. A. or A. S. degree	22	1.4	1.7
4-year degree	100	6.5	7.8
4-year degree-plus	23	1.5	1.8
Missing data	255	16.6	----
10. <u>Round-trip Mileage</u>			
20 miles or less	888	57.7	65.6
More than 20 miles	466	30.2	34.4
Missing data	186	12.1	----
11. <u>Financial Support</u>			
Parents	635	41.2	51.2
Self and family	422	27.4	34.0
Government	183	11.9	14.8
Missing data	300	19.5	----
12. <u>Family Income</u>			
Less than \$7,500	344	22.3	24.3
\$7,500 - \$12,000	278	18.1	19.7
\$12,000 and over	341	22.1	24.1
Unable to estimate	450	29.2	31.8
Missing data	127	8.3	----
13. <u>FTGT Total Scores</u>			
1-50	51	3.3	4.9
51-100	89	5.8	8.5
101-150	79	5.1	7.6
151-200	104	6.7	9.9
201-250	132	8.6	12.6
251-300	123	8.0	11.8
301-350	157	10.2	15.0
351-400	160	10.4	15.3
401-450	119	7.7	11.4
451-495	32	2.1	3.1
Missing data	494	32.1	----
14. <u>Rank in high school graduating class</u>			
0-40	507	32.9	42.5
41-60	203	13.2	17.0
61-80	139	9.0	11.6
81-100	345	22.4	28.9
Missing data	366	23.8	----

Table 2 - continued

Student Characteristic	Absolute Frequency	Relative Frequency (Percent)	Adjusted Frequency (Percent)
15. <u>Age</u>			
17 or under	22	1.4	1.4
18 to 20	826	53.6	53.6
21 to 44	656	42.6	42.6
45 or older	36	2.3	2.3

Source: Central Florida Community College admission applications,
August 1971 to May 1973.

Table 3

Characteristics of Students
Enrolled in Associate of Science Programs
1971-73 at Central Florida Community College
(N = 963)

Student Characteristic	Absolute Frequency	Relative Frequency (Percent)	Adjusted Frequency (Percent)
1. <u>Sex</u>			
Female	452	46.9	46.9
Male	511	53.1	53.1
Missing data			
2. <u>Marital Status</u>			
Single	485	50.4	50.5
Married	476	49.4	49.5
Missing data	2	0.2	----
3. <u>No. Dependents</u>			
None	601	62.4	62.4
One	118	12.3	12.3
Two	125	13.0	13.0
Three	73	7.6	7.6
More than three	46	4.8	4.8
4. <u>Race</u>			
White	793	82.3	82.4
Black	156	16.2	16.2
Other	13	1.3	1.4
Missing data	1	0.1	----
5. <u>Student Status</u>			
Full-time	348	36.1	37.5
Part-time	580	60.2	62.5
Missing data	35	3.7	----
6. <u>Father's Occupation</u>			
Professional	172	17.9	25.7
Clerical	64	6.6	9.6
Service	124	12.9	18.5
Farming	45	4.7	6.7
Processing	7	0.7	1.0
Machine	31	3.2	4.6
Bench	6	0.6	.9
Structural	58	6.0	8.7
Miscellaneous	22	2.3	3.3
None	18	1.9	2.7
Retired	123	12.8	18.4
Missing data	293	30.4	----
7. <u>Father's Education</u>			
Less than high school	472	49.0	50.6
High school	263	27.3	28.2
Some college	100	10.4	10.7
A.A. or A.S. degree	10	1.0	1.1
4-year degree	54	5.6	5.8
4-year degree-plus	34	3.5	3.6
Missing data	30	3.1	----

Table 3 - continued

Student Characteristic	Absolute Frequency	Relative Frequency (Percent)	Adjusted Frequency (Percent)
8. <u>Mother's Occupation</u>			
Professional	77	8.0	10.3
Clerical	105	10.9	14.0
Service	106	11.0	14.2
Farming	3	0.3	0.4
Processing	3	0.3	0.4
Machine	1	0.1	0.1
Bench	1	0.1	0.1
Structural	3	0.3	0.4
Miscellaneous	11	1.1	1.5
None	393	40.8	52.5
Retired	46	4.8	6.1
Missing data	214	22.2	----
9. <u>Mother's Education</u>			
Less than high school	180	18.7	24.8
High school	364	37.8	50.1
Some college	126	13.1	17.3
A. A. or A. S. degree	10	1.0	1.4
4-year degree	39	4.0	5.4
4-year degree-plus	8	0.8	1.1
Missing data	236	24.5	----
10. <u>Round-trip Mileage</u>			
20 miles or less	541	56.2	71.3
More than 20 miles	218	22.6	28.7
Missing data	204	21.2	----
11. <u>Financial Support</u>			
Parents	230	23.9	37.6
Self and family	290	30.1	47.5
Government	91	9.4	14.9
Missing data	352	36.6	----
12. <u>Family Income</u>			
Less than \$7,500	214	22.2	23.5
\$7,500 - \$12,000	177	18.4	19.4
\$12,000 and over	182	18.9	20.0
Unable to estimate	339	35.2	37.2
Missing data	51	5.3	----
13. <u>FTGY Total Scores</u>			
1-50	19	2.0	5.1
51-100	31	3.2	8.3
101-150	42	4.4	11.3
151-200	49	5.1	13.1
201-250	57	5.9	15.3
251-300	44	4.6	11.8
301-350	43	4.5	11.5
351-400	48	5.0	12.9
401-450	28	2.9	7.5
451-495	12	1.2	3.2
Missing data	590	61.3	----
14. <u>Rank in high school graduating class</u>			
0-40	344	35.7	53.1
41-60	104	10.8	16.0
61-80	106	11.0	16.4
81-100	94	9.8	14.5
Missing data	315	32.7	----

Table 3 - continued

Student Characteristic	Absolute Frequency	Relative Frequency (Percent)	Adjusted Frequency (Percent)
15. <u>Age</u>			
17 or under	7	0.7	0.7
18 to 20	288	29.9	29.9
21 to 44	585	60.7	60.7
45 or older	83	8.6	8.6

Source: Central Florida Community College admission applications,
August 1971 to May 1973.

Comparison of the Characteristics of Students Enrolled in Specific Programs or Major Fields of Study

Utilizing the Higher Education General Information Survey (HEGIS) classification system, the 79 program and study areas revealed by a preliminary survey were grouped under 16 standard HEGIS categories -- 10 in the Associate of Arts area and six in the Associate of Science field.

Although the characteristics of the students in those two broad areas have already been compared, it appears that even within those fields the specific programs or fields of study tend to attract different kinds of students. In the following analyses of the major fields of study the characteristics of the students in each field are compared with the characteristics of all students in either the Associate of Arts area or in the Associate of Science area, whichever is appropriate.

Associate of Arts programs and fields of study

Business and Management. In this area the males outnumbered the females four to one, and about three-fourths of the students were single. Enrollment was largely white (85%), and 78.4% of the students were full time. Both mothers and fathers of these students were more likely to have completed high school and were more likely to be engaged in professional, technical, or managerial occupations than were the parents of the composite Associate of Arts student. Students in this field tended to rely more than normally on government as their primary source of financing, though parental assistance was still the most important source.

Architecture and Engineering. Males outnumbered females three to one in this field. There was a relatively small percentage of blacks represented (6.9%) but a larger than usual percentage of other races (13.9%). Both the mothers and the fathers of the students in this program had a better than average high school completion record, and family incomes were considerably above average. A below-average percentage of the students' mothers was employed in any capacity. The students in this program tended to be a bit older than average. Their scores on the FTGT were relatively high, and their ranks in high school were much higher than average.

Fine Arts and Foreign Languages. In this field the female students outnumbered males 35 to 27, and a relatively high percentage (82.3%) were single. Black representation was a bit below average (11.3%). The students' mothers seemed more likely to be engaged in professional, technical, managerial, or clerical occupations than were those of the average students. The students in this field tended to live closer to the campus and were considerably younger than average. There was a strong reliance on parents for financial support, and family incomes tended to be above average. Scores on the FTGT were slightly below average, and these students were slightly below average in their high school graduating class rankings.

Health. About 55% of the students were female and 83.5% were single. There was a preponderance of white students (91.7%), and almost 90% of the students were full time. The fathers tended toward

Table 4

Characteristics of Students
Enrolled in Specific Associate of Arts Programs
1971-73 at Central Florida Community College

Student Characteristic	All A. A. Degree Programs		Business and Management		Architecture and Engineering	
	#	%	#	%	#	%
1. <u>Sex</u>						
Female	776	47.2	54	20.2	25	24.8
Male	815	52.8	154	79.8	76	75.2
2. <u>Marital Status</u>						
Single	1,149	75.0	125	74.1	75	74.3
Married	362	25.0	43	25.9	26	25.7
3. <u>No. Dependents</u>						
None	1,222	75.4	127	75.1	81	80.2
1-5	258	16.7	35	20.8	16	15.8
More than three	60	3.9	7	4.1	4	4.0
4. <u>Race</u>						
White	1,262	81.4	143	85.1	80	79.2
Black	246	16.1	17	11.3	7	6.9
Other	39	2.5	6	3.6	14	13.9
5. <u>Student Status</u>						
Full-time	1,151	76.5	131	78.4	71	72.4
Part-time	354	21.5	36	21.6	27	27.6
6. <u>Father's Occupation</u>						
Professional	372	30.3	52	37.1	26	30.6
Clerical	151	12.3	13	9.3	12	14.1
Service	232	18.9	39	21.4	12	14.1
Structural	134	10.9	19	9.3	16	18.8
Other	161	12.4	14	10.0	8	9.5
Retired	166	15.2	18	12.9	11	12.9
7. <u>Father's Education</u>						
Less than high school	595	39.7	55	34.3	34	34.3
High school	902	53.5	54	36.0	35	35.6
Some college	451	26.8	48	29.8	30	30.3
8. <u>Mother's Occupation</u>						
Professional	292	18.3	23	15.8	10	13.3
Clerical	212	16.1	17	11.6	4	8.0
Service	186	14.1	23	15.8	15	17.3
Other	27	2.1	4	4.1	2	2.7
None	648	49.1	70	47.9	42	54.0
Retired	43	3.3	7	4.8	2	2.7
9. <u>Mother's Education</u>						
Less than high school	227	17.7	24	16.7	6	8.6
High school	718	55.9	85	59.7	43	61.4
Some college	340	26.4	34	23.6	21	30.0
10. <u>Round-trip Mileage</u>						
Less than 20 miles	888	65.6	108	71.5	53	62.4
20 miles or more	466	34.4	43	28.5	32	37.6
11. <u>Financial Support</u>						
Parents	635	51.2	70	47.3	41	51.9
Self and family	422	34.0	48	32.4	27	34.2
Government	183	14.8	30	20.3	11	13.9
12. <u>Family Income</u>						
Less than \$7,500	344	24.5	43	27.6	19	19.2
\$7,500 - \$11,999	278	19.7	29	18.6	20	20.2
\$12,000 and over	341	24.1	41	26.3	30	30.5
Can't estimate	450	31.9	43	27.6	30	30.3
13. <u>PTOT Total Scores</u>						
6-150	219	21.0	27	20.8	11	18.3
151-495	311	29.8	34	26.1	21	35.0
14. <u>Rank in high school</u>						
<u>Ranking class</u>						
6- 25	507	43.5	52	41.9	26	32.5
41- 60	203	17.0	27	21.8	8	10.0
61- 80	139	11.4	13	10.5	8	10.0
81-100	345	28.9	32	25.8	34	47.5
15. <u>Age</u>						
16-20	843	55.0	89	52.7	46	45.6
Over 20	676	45.0	80	47.3	55	54.4

Table 4 - continued

Student Characteristic	All A. A. Degree Programs		Fine Arts and Foreign Languages		Health	
	#	%	#	%	#	%
1. <u>Sex</u>						
Female	126	47.2	35	56.5	73	54.9
Male	813	52.8	27	43.5	60	45.1
2. <u>Marital Status</u>						
Single	1,149	75.0	31	82.3	111	83.5
Married	382	25.0	11	17.7	22	16.3
3. <u>No. Dependents</u>						
None	1,222	79.4	54	90.4	114	85.7
1-3	258	16.7	3	8.0	18	13.5
More than three	60	3.9	1	1.6	1	0.8
4. <u>Race</u>						
White	1,252	81.4	33	85.5	122	91.7
Black	248	16.1	7	11.3	9	6.8
Other	39	2.5	2	3.2	2	1.5
5. <u>Student Status</u>						
Full-time	1,151	76.5	48	80.0	119	87.5
Part-time	354	23.5	12	20.0	14	10.5
6. <u>Father's Occupation</u>						
Professional	372	30.3	18	53.3	40	35.4
Clerical	151	12.3	7	13.0	22	16.6
Service	232	18.9	13	24.1	11	9.7
Structural	134	10.9	4	11.1	15	13.3
Other	151	12.4	1	1.8	20	17.7
Retired	186	15.2	9	16.7	15	13.3
7. <u>Father's Education</u>						
Less than high school	593	39.7	23	37.1	52	39.7
High school	382	33.5	20	32.3	40	30.5
Some college	421	26.8	19	30.6	39	29.8
8. <u>Mother's Occupation</u>						
Professional	292	15.3	11	19.0	11	8.7
Clerical	212	10.1	10	17.2	28	22.2
Service	185	14.1	5	8.6	8	6.3
Other	27	2.1	0	0.0	2	1.6
None	648	49.1	30	51.7	73	57.9
Retired	43	3.3	2	3.4	4	3.2
9. <u>Mother's Education</u>						
Less than high school	227	17.7	11	15.6	21	17.5
High school	718	55.9	31	35.4	64	56.7
Some college	340	26.4	14	25.0	31	25.8
10. <u>Round-trip Mileage</u>						
Less than 20 miles	888	45.4	43	76.8	70	58.3
20 miles or more	446	34.4	13	23.2	50	41.7
11. <u>Financial Support</u>						
Parents	435	31.2	29	38.0	74	61.2
Self and family	422	34.0	13	26.0	34	28.1
Government	183	14.8	8	16.0	13	10.7
12. <u>Family Income</u>						
Less than \$7,500	344	24.3	14	23.7	24	20.4
\$7,500 - \$11,999	278	19.7	8	13.6	26	20.4
\$12,000 and over	341	24.1	20	33.9	40	31.7
Can't estimate	430	31.9	17	28.8	34	27.0
13. <u>PTOT Total Scores</u>						
0-150	219	21.0	10	20.9	10	10.2
331-675	311	29.8	11	23.0	36	36.4
14. <u>Rank in high school graduating class</u>						
0-40	307	42.5	22	43.1	48	43.3
41-80	203	17.0	8	15.7	23	20.7
81-100	139	11.6	8	15.7	16	14.4
101-150	345	28.9	13	25.5	24	21.6
15. <u>Age</u>						
18-20	848	51.0	43	67.3	90	67.7
Over 20	492	43.0	19	30.7	43	32.4

Table 4 - continued

Student Characteristic	All A. A. Degree Programs		Nurse Education and Education		Letters, Communications and Library Sciences	
	#	%	#	%	#	%
1. <u>Sex</u>						
Female	326	47.2	265	63.3	42	60.9
Male	313	32.8	119	36.7	27	39.1
2. <u>Marital Status</u>						
Single	1,147	75.0	217	70.7	37	82.6
Married	382	25.0	94	29.3	12	17.4
3. <u>No. Dependents</u>						
None	1,222	75.4	249	76.9	53	76.8
1-3	258	16.7	64	19.7	14	20.3
More than three	60	3.9	11	3.4	2	2.9
4. <u>Race</u>						
White	1,252	81.4	268	74.1	52	75.4
Black	240	16.1	81	23.0	16	23.2
Other	37	2.5	3	0.9	1	1.4
5. <u>Student Status</u>						
Full-time	1,151	76.5	228	75.2	48	70.6
Part-time	354	23.5	79	24.8	20	29.4
6. <u>Father's Occupation</u>						
Professional	372	30.3	72	24.2	14	25.0
Clerical	151	12.3	30	11.8	11	19.6
Service	232	18.9	50	16.6	15	26.8
Structural	124	10.9	33	12.9	6	10.8
Other	151	12.4	37	14.4	3	4.9
Retired	186	15.2	33	12.9	3	4.9
7. <u>Father's Education</u>						
Less than high school	595	36.7	142	43.4	23	34.3
High school	322	32.5	109	34.8	24	41.8
Some college	401	26.8	62	19.8	16	23.9
8. <u>Mother's Occupation</u>						
Professional	282	15.3	47	16.4	8	13.3
Clerical	212	16.1	82	28.2	11	18.3
Service	186	14.1	57	19.9	10	16.7
Other	27	2.1	10	3.3	1	1.7
None	648	49.1	114	35.7	29	48.3
Retired	43	3.3	4	1.1	1	1.7
9. <u>Mother's Education</u>						
Less than high school	227	17.7	43	19.2	10	17.2
High school	718	35.9	137	35.7	33	56.9
Some college	340	26.4	70	24.8	15	24.9
10. <u>Round-trip Mileage</u>						
Less than 20 miles	888	63.6	393	67.2	42	73.7
20 miles or more	466	34.4	94	32.8	13	26.3
11. <u>Financial Support</u>						
Parents	633	31.2	118	46.3	28	33.8
Self and family	422	34.0	100	39.4	18	34.6
Government	183	14.8	36	14.2	6	11.8
12. <u>Family Income</u>						
Less than \$7,500	344	24.3	89	30.4	12	19.4
\$7,500 - \$11,999	278	19.7	61	21.0	12	19.4
\$12,000 and over	341	24.1	94	18.4	12	19.4
Can't estimate	430	31.9	87	29.9	26	41.9
13. <u>FGFY Total Sources</u>						
0-199	219	21.0	45	27.4	12	25.1
200-499	311	29.8	50	21.1	16	33.4
14. <u>Rank in high school graduating class</u>						
0-40	507	42.5	99	41.6	20	36.4
41-60	203	17.0	37	15.3	7	12.7
61-80	139	11.6	38	16.0	4	7.3
81-100	345	28.9	84	26.9	24	43.6
15. <u>Age</u>						
18-20	848	55.0	174	33.7	40	37.9
Over 20	672	45.0	150	46.3	29	42.1

Table 4 - continued

Student Characteristic	All A. A. Degree Programs f %	Mathematics and Computer Sciences f %	Physical Sci- ences, Agri- culture, & Dist. Sciences f %
1. <u>Sex</u>			
Female	726 47.2	21 50.0	20 22.0
Male	813 52.8	21 50.0	71 78.0
2. <u>Marital Status</u>			
Single	1,549 75.0	30 75.0	78 85.7
Married	522 25.0	10 25.0	13 14.3
3. <u>No. Dependents</u>			
None	1,222 79.4	30 71.4	77 84.6
1-3	235 15.7	11 26.3	10 11.0
More than three	65 3.2	1 2.4	4 4.4
4. <u>Race</u>			
White	1,252 81.4	35 83.3	80 87.9
Black	248 16.1	6 14.3	7 7.7
Other	39 2.5	1 2.4	4 4.4
5. <u>Student Status</u>			
Full-time	1,151 76.5	32 84.2	65 79.3
Part-time	354 23.5	6 15.8	18 20.7
6. <u>Father's Occupation</u>			
Professional	372 30.3	11 34.7	20 27.8
Clerical	151 12.3	2 6.7	10 13.9
Service	232 18.9	4 13.3	14 19.4
Structural	134 10.9	2 6.7	5 6.9
Other	151 12.4	3 9.9	11 15.3
Retired	166 15.2	8 24.7	12 16.7
7. <u>Father's Education</u>			
Less than high school	595 39.7	13 31.6	33 37.1
High school	562 33.5	15 39.7	37 41.4
Some college	401 24.8	14 33.3	19 21.3
8. <u>Mother's Occupation</u>			
Professional	202 15.3	7 20.0	17 21.3
Clerical	212 16.1	7 20.0	9 12.3
Service	186 14.1	3 8.6	7 9.4
Other	27 2.1	0 0.0	0 0.0
None	648 49.1	15 42.8	38 52.1
Retired	43 3.3	3 8.6	2 2.7
9. <u>Mother's Education</u>			
Less than high school	227 17.7	3 8.1	6 8.3
High school	718 55.9	22 59.5	49 63.1
Some college	340 26.4	12 32.4	17 23.4
10. <u>Road-trip Mileage</u>			
Less than 20 miles	888 65.4	23 56.1	42 53.2
20 miles or more	465 34.4	38 43.9	37 46.8
11. <u>Financial Support</u>			
Parents	638 51.2	18 45.6	38 50.8
Self and family	422 34.0	11 29.7	24 34.2
Government	183 14.8	8 21.6	12 15.1
12. <u>Family Income</u>			
Less than \$7,500	344 24.3	16 40.0	19 23.5
\$7,500 - \$11,999	278 19.7	13 32.5	9 11.1
\$12,000 and over	341 24.1	3 7.5	28 34.4
Can't estimate	450 31.9	8 20.0	25 30.9
13. <u>FCIT Total Scores</u>			
0-159	219 21.0	3 9.7	12 20.0
161-495	311 29.8	12 34.7	21 35.0
14. <u>Rank in high school graduating class</u>			
0-40	507 42.5	6 23.1	29 41.4
41-60	203 17.0	6 23.1	15 21.4
61-80	139 11.6	4 15.4	7 10.0
81-100	345 28.9	10 38.4	19 27.1
15. <u>Age</u>			
16-20	848 55.0	21 50.8	47 51.7
Over 20	412 45.0	21 50.0	44 48.3

Table 4 - continued.

Student Characteristic	All A.A. Programs		Psychology, Public Affairs and Social Sciences		Inter- disciplinary	
	#	%	#	%	#	%
1. <u>Sex</u>						
Female	724	47.2	84	55.8	187	46.6
Male	813	52.8	64	43.2	214	53.4
2. <u>Marital Status</u>						
Single	1,107	75.0	119	81.0	278	69.3
Married	382	25.0	28	19.0	123	30.7
3. <u>No. Dependents</u>						
None	1,275	79.4	124	83.8	311	77.6
1-3	218	15.7	17	11.4	48	16.9
More than three	60	3.9	7	4.8	24	5.5
4. <u>Race</u>						
White	1,252	81.4	59	46.9	345	86.8
Black	245	16.1	47	31.6	49	12.2
Other	39	2.5	2	1.4	4	1.0
5. <u>Student Status</u>						
Full-time	1,151	76.5	112	76.2	282	72.5
Part-time	354	23.5	35	23.8	107	27.5
6. <u>Father's Occupation</u>						
Professional	372	30.3	33	28.0	86	28.4
Clerical	151	12.3	9	7.6	45	14.9
Service	232	18.9	39	29.7	48	15.8
Structural	134	10.9	8	6.8	30	9.9
Other	151	12.4	14	11.6	58	12.5
Retired	186	15.2	19	16.1	56	18.5
7. <u>Father's Education</u>						
Less than high school	318	38.7	61	42.1	199	45.9
High school	505	31.8	44	30.3	116	29.8
Some college	431	26.8	40	27.4	114	29.3
8. <u>Mother's Occupation</u>						
Professional	202	15.3	19	15.3	49	14.6
Clerical	112	16.1	10	6.1	62	18.5
Service	168	14.1	14	11.3	46	13.7
Other	27	2.1	1	0.8	5	1.4
None	448	49.1	74	59.7	164	45.8
Retired	43	3.3	6	4.8	10	3.0
9. <u>Mother's Education</u>						
Less than high school	327	17.7	25	21.2	66	20.1
High school	718	35.9	65	53.4	166	50.6
Some college	340	26.4	50	25.4	98	29.3
10. <u>Round-trip Mileage</u>						
Less than 20 miles	888	65.6	91	66.9	223	64.5
20 miles or more	468	34.4	41	31.1	123	35.5
11. <u>Financial Support</u>						
Parents	638	81.2	58	53.7	161	51.1
Self and family	422	34.0	38	35.2	107	34.0
Government	183	14.8	12	11.1	47	14.9
12. <u>Family Income</u>						
Less than \$1,500	344	24.3	47	38.9	59	18.0
\$1,500 - \$11,999	378	19.7	21	16.0	79	21.3
\$12,000 and over	341	26.1	25	19.1	88	23.9
Can't estimate	490	31.9	38	29.0	142	38.6
13. <u>ACT Total Scores</u>						
20-139	219	21.0	27	20.1	42	17.5
140-499	311	29.8	26	20.0	14	34.9
14. <u>Rank in high school</u>						
<u>graduating class</u>						
0-40	807	42.5	48	44.4	197	47.4
41-60	203	17.0	17	15.7	85	16.6
61-80	139	11.6	8	7.4	33	10.0
81-100	345	20.9	35	32.9	86	26.0
15. <u>Age</u>						
16-20	648	55.0	85	57.5	213	53.1
Over 20	692	45.0	63	42.5	185	46.8

Source: Central Florida Community College admission applications, August 1971 to May 1973.

professional, managerial, technical, and structural occupations, and the mothers tended toward clerical skills. A fairly high percentage (41.7%) of these students commuted more than 20 miles a day. There was an above-average reliance on parents for financial support, and family incomes were well above average. These students were younger than average, they scored higher than average on the FTGT, but their ranks in their high school graduating classes were somewhat below average.

Home Economics and Education. This area, consisting almost entirely of education majors, contained a preponderance of female students (63.3%), a larger percentage of black students than most areas (25%), and relatively more married students than other fields. A high percentage (45.4%) of the students' fathers did not complete high school. There was an above-average reliance on themselves as a source of financial support, and family incomes were generally well below average. Students in this field scored considerably below average on the FTGT.

Letters, Communications, and Library Sciences. Students in this area tended to be female (60.9%) and single (82.6%). An above-average percentage (23.2%) of the students were black. Both mothers and fathers of these students tended more toward service and clerical occupations and less toward the professional ones. There was a tendency toward shorter commuting distances among these students. A high percentage of them (43.6%) ranked in the upper 20% of their high

school graduating classes, but their grades on the FTGT were close to the norm for Associate of Arts students.

Mathematics and Computer Sciences. In this field there was a tendency for the students to be full time and to have parents who are engaged in professional, technical, and managerial occupations. Too, the parents were more likely to have completed high school, though there was no strong record of college training. Family incomes for this group were somewhat low; a higher percentage of the students than normal derived their financial support from government benefits. Scores on the FTGT were much higher than the average, and the students ranked considerably higher in their high school graduating classes than did the average student.

Physical Sciences, Agriculture, and Biological Sciences. In these fields the males outnumbered the females almost four to one. Relatively few (14.3%) were married, the percentage of blacks in the program was fairly low (7.7%), and the students tended to commute greater distances than did the average student. The mothers of these students tended to be engaged in professional occupations, but not very many of them were in the clerical or service fields. Family incomes seemed considerably higher than normal. The students, who as a group were a little older than the average student, scored well above average on the FTGT. However, their high school graduating class rankings were about average.

Psychology, Public Affairs, and Social Sciences. These fields of study were characterized by a high percentage (81%) of single students and a high percentage (31.8%) of black students. There was a tendency for the fathers of these students to be engaged in service occupations and for a large percentage (50%) of the mothers to have no occupation. The parents' educational backgrounds were about average, but family incomes were below average. A relatively high percentage (29.1%) of the students scored less than 150 on the FTGT.

Interdisciplinary. This group included all of those students who intended to obtain the Associate of Arts degree but were not prepared to choose, at the time of their admission, a specific major field of study. As a group they differed in very few respects from the average Associate of Arts degree student. A relatively high percentage (30.7%) of them were married. The reported family incomes were slightly above average, but almost 40% of these students were unable to estimate their family income. As a group their scores on the FTGT were somewhat below average.

Associate of Science degree programs

Agriculture. The students in this program differed from students in other Associate of Science programs on virtually every count. All were white, almost 90% were full time, and they were younger than was the average student. Whereas their mothers tended toward clerical occupations, the fathers (37.5% of them) were engaged in agriculture. The educational backgrounds of the parents were not very strong, only

one of the 46 parents having graduated from a four-year college. These students tended to rely heavily on their parents for financial support. A high percentage (53.4%) of the students scored less than 150 on the FTGT.

Health. There was a seven to three preponderance of females in this field. About 90% of the students were white, 37% were married, and 83.5% were full-time students. They tended to be younger than other Associate of Science students. Their scores on the FTGT were considerably above average, and their rankings in their high school graduating classes were well above average. Family incomes seemed below average but there was a tendency for these students to rely on their parents for financial support. A high percentage (40.2%) of these students commuted more than 20 miles daily.

Office. In this program area the female students outnumbered the males three to two. About three-fourths were full time, and the average age was well below that of the composite Associate of Science student. A relatively high percentage of the fathers (55.1%) and of the mothers (32.1%) did not complete high school. Commuting distances were greater for these students and they tended to rely on their parents for financial support. Their scores on the FTGT were not very high, with a disproportionate percentage (34.9%) having scored less than 150 and only 13.8% having scored over 350. However, these students ranked higher in their high school graduating classes than did the average Associate of Science student.

Unclassified Occupational. This group was characterized by a high percentage (61%) of married students and by a higher than average percentage (24%) of black students. Some 95% of these students were classified as part time. A high percentage (54.3%) of their fathers did not complete high school. Only 17.6% of the students commuted more than 20 miles daily, and only 15% of them were under 21 years of age. Not all data on this group of students are complete, especially regarding family income, scores on the FTGT, and rank in high school graduating class. Thus, on those factors it would seem inappropriate to make comparisons or to draw any conclusions.

Technical. Over 95% of these students were male, 87.5% were white, and their parents' educational backgrounds were better than average. A large percentage of them (51.9%) commuted more than 20 miles daily. On the remaining characteristics this group seemed about average and in effect epitomized the typical Associate of Science student.

Law Enforcement. These students, one-fourth of whom were female, varied from the norms in several respects. For instance, the enrollment consisted primarily of married students (71.4%) deriving most of their income from their own employment positions or from government support programs. Most of the students (88.3%) were white, and only 18% of them were under 21. The fathers of these students tended more toward service and structural work, and 25% of them were retired. Some 56% of the fathers did not graduate from high school. The mothers' educational backgrounds were stronger, however, and 20% of them had

Table 5

Characteristics of Students
Enrolled in Specific Associate of Science Programs
1971-73 at Central Florida Community College

Student Characteristic	All A. S. Degree Programs f %	Agriculture		Health	
		f	%	f	%
1. <u>Sex</u>					
Female	432 46.9	2	8.7	83 70.8	
Male	311 33.1	21 91.3		35 29.2	
2. <u>Marital Status</u>					
Single	485 50.5	17 78.5		73 63.0	
Married	476 49.5	5 21.7		44 37.0	
3. <u>No. Dependents</u>					
None	601 62.4	18 78.5		90 75.0	
1-5	316 32.8	4 17.4		26 21.7	
More than 5	46 4.8	1 4.3		4 3.3	
4. <u>Race</u>					
White	793 82.4	25 100.0		108 90.0	
Black	156 16.2	0 0.0		11 9.2	
Other	15 1.4	0 0.0		1 0.8	
5. <u>Student Status</u>					
Full-time	548 57.3	17 78.5		96 82.5	
Part-time	500 52.5	2 10.5		19 16.3	
6. <u>Father's Occupation</u>					
Professional	172 25.7	3 18.8		26 28.3	
Clerical	64 9.4	2 12.4		11 11.1	
Service	124 18.5	1 6.3		30 30.2	
Structural	58 8.7	1 6.3		11 11.1	
Other	129 19.1	8 50.0		16 16.1	
Retired	125 18.4	1 6.3		15 15.2	
7. <u>Father's Education</u>					
Less than high school	472 50.4	10 43.5		50 42.8	
High school	263 28.2	8 34.8		43 36.1	
College	198 21.2	5 21.7		26 21.9	
8. <u>Mother's Occupation</u>					
Professional	77 10.3	1 5.5		15 14.4	
Clerical	105 14.0	3 16.5		18 17.5	
Service	126 16.3	3 16.5		12 11.7	
Other	32 4.3	1 5.5		3 2.9	
None	395 52.5	10 52.4		52 50.5	
Retired	46 6.1	0 0.0		3 2.9	
9. <u>Mother's Education</u>					
Less than high school	180 24.8	4 30.8		24 23.5	
High school	564 59.1	11 55.0		48 47.1	
College	185 23.1	5 25.0		30 29.4	
10. <u>Round-trip Mileage</u>					
Less than 20 miles	941 71.5	12 57.1		55 55.4	
20 miles or more	210 28.7	9 42.9		57 40.2	
11. <u>Financial Support</u>					
Parents	230 37.6	10 58.8		44 47.3	
Self and family	290 47.3	4 23.3		39 41.9	
Government	91 14.9	3 17.4		10 10.8	
12. <u>Family Income</u>					
Less than \$7,500	214 23.3	4 17.4		40 37.4	
\$7,500 - \$11,999	177 19.4	4 26.1		24 22.4	
\$12,000 and over	122 16.0	4 26.1		21 19.4	
Unable to estimate	339 37.2	7 38.4		22 20.4	
13. <u>FGY Totals</u>					
0-100	92 24.7	2 55.4		10 11.8	
251-493	88 25.4	2 13.5		26 30.4	
14. <u>Rank in high school</u>					
<u>Standard class</u>					
0-60	544 57.1	3 15.0		44 43.4	
41-80	104 16.0	4 20.0		14 13.8	
81-100	106 16.4	4 20.0		14 13.9	
15. <u>Age</u>					
18-20	215 50.6	14 60.9		39 47.2	
Over 20	448 67.4	9 59.1		41 50.8	

Table 5 - continued

Student Characteristic	All A. S. Degree Programs		Office		Unclassified Occupational	
	#	%	#	%	#	%
1. <u>Sex</u>						
Female	452	46.9	96	66.0	246	49.7
Male	511	53.1	44	40.0	249	50.3
2. <u>Marital Status</u>						
Single	485	50.5	114	74.5	193	39.0
Married	476	49.5	44	27.5	302	61.0
3. <u>Age, Dependents</u>						
None	401	62.4	128	80.0	273	55.2
1-3	516	32.0	28	17.5	193	38.9
More than 3	46	4.8	4	2.5	29	5.9
4. <u>Race</u>						
White	795	82.4	151	82.4	386	78.0
Black	156	16.2	26	14.4	101	20.4
Other	15	1.4	3	1.3	8	1.6
5. <u>Student Status</u>						
Full-time	348	37.5	115	75.9	26	5.4
Part-time	580	62.5	40	26.1	453	94.6
6. <u>Father's Occupation</u>						
Professional	172	25.7	34	28.1	81	26.4
Clerical	44	9.6	12	9.9	30	9.8
Service	124	16.5	25	19.0	56	18.2
Structural	58	8.7	9	7.4	20	6.5
Other	129	29.1	24	19.7	53	17.3
Retired	125	18.4	19	15.7	67	21.8
7. <u>Father's Education</u>						
Less than high school	472	50.6	86	55.1	259	54.5
High School	243	25.2	40	25.4	110	23.1
College	198	21.2	30	22.5	108	22.4
8. <u>Mother's Occupation</u>						
Professional	77	10.5	13	9.4	40	11.1
Clerical	205	14.0	17	12.5	48	13.4
Service	104	14.2	21	15.2	54	15.0
Other	22	2.9	4	2.9	9	2.5
None	393	52.5	79	57.3	174	48.5
Retired	48	6.1	4	2.9	34	9.5
9. <u>Mother's Education</u>						
Less than high school	180	24.8	42	31.1	80	22.6
High school	364	50.1	45	48.1	174	47.2
College	185	25.1	34	19.8	100	28.2
10. <u>Round-trip Mileage</u>						
Less than 20 miles	541	71.5	93	64.6	295	82.4
20 miles or more	218	28.7	51	32.4	65	17.6
11. <u>Financial Support</u>						
Parents	230	57.6	71	54.2	67	28.8
Self and family	290	47.5	36	27.5	149	62.1
Government	91	14.9	24	18.5	22	9.2
12. <u>Family Income</u>						
Less than \$7,500	214	23.5	43	29.5	73	15.4
\$7,500 - \$11,999	177	18.4	24	17.7	80	18.8
\$12,000 and over	182	20.0	26	17.7	101	21.3
Unable to estimate	339	57.8	52	55.4	221	66.5
13. <u>PTCF Totals</u>						
0-150	92	24.7	38	34.9	7	11.0
\$51-495	88	23.6	19	13.8	28	63.8
14. <u>Rank in high school graduating class</u>						
0-40	344	53.1	55	41.7	185	66.5
41-60	104	16.0	38	21.2	31	11.2
61-80	106	16.4	30	22.7	33	11.7
81-100	94	14.5	19	14.4	29	10.4
15. <u>Age</u>						
16-20	395	56.6	95	58.1	75	15.1
Over 20	648	61.4	67	41.9	420	84.9

Table 5 - continued

Student Characteristic	All A.S. Degree Programs		Technical		Law Enforcement	
	f	%	f	%	f	%
1. <u>Sex</u>						
Female	412	46.9	4	4.5	17	24.7
Male	511	53.1	84	95.5	58	75.3
2. <u>Marital Status</u>						
Single	485	50.5	61	70.1	22	28.6
Married	478	49.5	26	29.9	55	71.4
3. <u>No. Dependents</u>						
None	601	62.4	61	69.3	31	40.3
1-3	315	32.8	23	26.4	40	51.9
More than 3	45	4.8	2	2.3	6	7.8
4. <u>Race</u>						
White	793	82.4	77	87.5	68	88.3
Black	154	16.2	9	10.2	9	11.7
Other	13	1.4	2	2.3	8	10.0
5. <u>Student Status</u>						
Full-time	348	37.5	63	72.3	33	43.4
Part-time	580	62.5	23	26.7	43	56.6
6. <u>Father's Occupation</u>						
Professional	172	25.7	20	27.0	8	13.1
Clerical	44	9.6	4	5.4	5	8.6
Service	124	18.5	15	20.3	9	17.0
Structural	28	8.7	10	13.5	7	13.2
Other	129	19.1	17	23.0	11	20.8
Retired	123	16.4	8	10.8	13	24.3
7. <u>Father's Education</u>						
Less than high school	472	50.6	28	31.8	39	50.7
High School	263	28.2	41	46.1	21	30.5
College	198	21.2	29	31.6	10	14.3
8. <u>Mother's Occupation</u>						
Professional	77	20.3	6	8.1	2	3.4
Clerical	105	14.0	11	15.5	6	10.2
Service	104	14.2	5	7.0	12	20.3
Other	22	2.9	2	2.8	3	5.1
None	393	52.5	46	64.8	32	54.2
Retired	46	6.1	1	1.4	4	6.8
9. <u>Mother's Education</u>						
Less than high school	180	24.8	16	22.9	12	24.8
High school	344	36.4	49	57.1	28	56.0
College	183	19.1	14	16.0	10	20.9
10. <u>Residence Mileage</u>						
Less than 20 miles	541	71.3	37	48.1	49	75.1
20 miles or more	218	28.7	40	51.9	16	26.9
11. <u>Financial Support</u>						
Parents	230	37.6	25	34.2	11	19.3
Self and family	290	47.5	35	47.5	27	47.4
Government	91	14.9	13	17.8	19	33.3
12. <u>Family Income</u>						
Less than \$1,000	214	23.5	26	30.2	28	37.8
\$1,000 - \$11,999	177	19.4	19	22.1	22	29.7
\$12,000 and over	182	20.0	20	23.3	8	10.6
Unable to estimate	339	37.2	21	24.4	16	21.6
13. <u>FGT Totals</u>						
0-100	92	24.7	12	20.4	17	41.5
101-400	88	23.6	12	20.4	5	12.2
14. <u>Rank in high school graduating class</u>						
0-40	344	53.1	23	33.4	34	65.4
41-60	104	16.0	16	24.6	9	17.3
61-80	104	16.4	15	21.1	8	15.4
81-100	94	14.5	11	16.9	1	1.9
15. <u>Age</u>						
18-20	295	30.6	48	45.5	14	18.2
Over 20	618	67.4	48	54.5	63	81.8

Source: Central Florida Community College admission applications, August 1971 to May 1973.

had some college training as compared with 14% of the fathers. These students ranked below average in their high school graduating classes, and their scores on the FTGT were quite low, with 41.5% of them scoring less than 150.

Faculty Questionnaire Data

During Term III-B, 1974 all faculty were provided with profiles of the characteristics of the students in their classes. The profiles, which were in computer printout form, covered the same 15 characteristics as did the more extensive 1971-1973 study.

The profiles were distributed during the second week of the term, at which time the instructors were asked to review the data and to use their own discretion in utilizing the information. They were not given specific instructions regarding the possible uses of the data in improving or modifying instruction, though they were informed that they would be contacted at the end of the term regarding their perceptions of how the data might be used and how they felt about the adequacy and the appropriateness of the data.

During the final week of the term each of the 27 faculty members was asked to complete a questionnaire related to his uses and perceptions of the data (see Appendix). All 27 faculty members responded, most of them by completing the questionnaire, and the remainder by answering the various questions in person or by telephone. As a matter of interest, each faculty member had also been provided with characteristics profiles of the student groups covered by the 1971-1973 survey in order that those

profiles might be compared with the ones covering the classes currently being taught.

Analysis of Data

The results of the questionnaires related to the student characteristics profiles covering all of the classes being taught during Term III-B, 1974 are summarized below.

Question Number One: Did you understand the data? Only one of the 27 respondents indicated he had some difficulty in understanding the data; the other 26 experienced no difficulty.

Question Number Two: Would you have liked someone to explain the data to you? Of the 27 faculty members, four indicated that they would have preferred to have someone explain the data to them; the remaining 23 instructors did not indicate any such preference.

Question Number Three: What did you do with the profile data after you received it? A variety of answers was received with respect to this question, with only one faculty member not providing any specific information. The replies can be summarized in the following manner:

. . . looked over the data	7
. . . studied the data	7
. . . compared the profiles with prior assumptions regarding the group	5
. . . reviewed the data and filed it	4
. . . reviewed the profiles and revised instructional strategy	1
. . . reviewed the data and shared the information with the class	1

. . . did not have time to review the profiles

1

Question Number Four: As a result of having received the data, have you modified your teaching techniques in any way? Four faculty members replied in the affirmative, and the other 23 stated that they had not yet made any changes in their teaching techniques. However, there were several comments related to this question, e.g.,

I'm already treating my students as individuals.

I attempt to elicit specific responses from my students.

I feel that my students need more individual attention, and I'm attempting to provide it.

The class profiles have led me to obtain additional data from my students' personnel records.

Question Number Five: As a result of having received the data, are you considering making any changes in your teaching methods? The responses to this question can be summarized as follows:

Yes.	12
No.	12
Possibly.	1
Not immediately	1
No comment.	<u>1</u>
Total	27

Question Number Six: Do the data suggest a need for any of the following instructional changes? Of the respondents, 18 faculty members perceived at least one instructional change which seemed warranted by

the student characteristics profiles of their classes, with some faculty suggesting several needed changes. Their basic responses can be summarized as follows:

<u>Type of Instructional Change</u>	<u>Number in favor of the Change</u>
a) More help for individual students	14
b) Self-paced instruction, with each student progressing at his own pace	8
c) Increased tutoring	12
d) More laboratory time	8
e) The use of more audio-visuals	8
f) Taped lectures for review purposes	7
g) More individual study projects	6
h) Increased class discussion	5
i) Less class discussion	1
j) Overall, a greater variety of instructional methods	15

Question Number Seven: Other than in teaching methodology, do the data suggest any other desirable changes in the relationship between you and your students? There were eight faculty members who responded affirmatively to this question, and their responses were accompanied by the following statements:

I recognize the need for improved relations with my students in order to take certain characteristics into account.

There is a need for a greater awareness of students' frustrations as well as their personal problems.

The data have identified, to some extent, students who need special help and understanding.

The profiles indicate that we need to encourage more students to come in for personal help.

There seems to be a need for improved instructor rapport with students.

There is a strong need for classes smaller than the 70 and 80 student classes I'm now teaching.

Question Number Eight: Were there any data you did not find particularly useful? Eleven of the respondents answered "no" to this question. The remaining 16 answered "yes" and cited one or more characteristics which they did not feel were particularly helpful. More than anything else, they indicated that the profiles might well have excluded characteristics which could easily be observed by faculty, such as race and sex. Other characteristics, such as marital status, source of income, and parents' occupations, were cited by faculty as not contributing to a better understanding of students' backgrounds. Five faculty members were unable to perceive how any of the profile characteristics could be of use to them.

Question Number Nine: Were there additional data you would like to see included in these profiles? Thirteen faculty members made suggestions for the inclusion of additional data in future profiles. These suggestions can be summarized as follows:

<u>Suggestion</u>	<u>Number of Respondents</u>
1) That profiles of individual students be provided	6

	<u>Suggestion</u>	<u>Number of Respondents</u>
2)	That the data include the student's cumulative grade point average	3
3)	That the profiles also include data on courses already taken by the student in particular fields, along with the grades received in those courses	2
4)	That there be shown whatever relationship seems to exist between the student's grades and his overall characteristics profile	1
5)	That these profiles be supplemented by the student's showing on various tests administered separately by the college's counseling department	<u>1</u>
	Total	13

Question Number Ten: Would you like to continue to receive information of this type at the beginning of each term? Nineteen of the respondents (70.3% of them) indicated that they would like to continue receiving student characteristics profiles at the beginning of each term.

CHAPTER III RESULTS AND DISCUSSION OF DATA

Characteristics data were not complete for each of the 2,905 students admitted to the college from 1971 to 1973. In all cases, however, a substantial percentage of the student data was available for analysis, and on two characteristics the data were complete for the entire sample. Table 6 demonstrates this.

With respect to data on all classes taught during Term III-B, 1974, responses were obtained from all faculty who taught during that term. The student characteristics data on their classes were somewhat more complete than were the data on the original 1971-1973 survey, with data on more recent admissions to the college having reflected some improvement in the college's data collection procedures. There is little question, however, that complete data are virtually impossible to obtain when a 12-page admission application is utilized. Students sometimes either neglect to answer all of the questions provided on the application form, or in some cases openly refuse to divulge more than basic information regarding their backgrounds.

In Chapter II the characteristics of all 2,905 students included in the original sample were reviewed, as were the characteristics of the Associate of Arts and the Associate of Science students as separate groups. Also, the characteristics of the students enrolled in the 16

Table 6

Completeness of Characteristics Data for Students Entering
 Central Florida Community College, August 1971 to May 1973
 (N = 2,905)

Student Characteristic	% Available Data
Sex	99.8
Marital Status	99.0
Number of Dependents	100.0
Race	99.9
Student Status	97.1
Father's Occupation	74.4
Father's Education	96.3
Mother's Occupation	81.0
Mother's Education	79.2
Round-trip Mileage	83.6
Primary Source of Financial Support	72.3
Family Income	92.4
FTGT Total Scores	55.6
High School Graduating Class Rank	63.4
Age	100.0

programs and fields of study were compared, in each case with either the Associate of Arts or the Associate of Science broad categories, whichever was appropriate.

In summarizing the characteristics of the Associate of Arts students, it may be said that they tended to be single, white, and averaged 23 years of age. They tended to rely on their parents for financial support and lived farther from the campus than did the typical Associate of Science student. They tended to be full-time students, and greater percentages of them scored above 350 on the FTGT and ranked in the upper 40% in their high school graduating classes than did their Associate of Science counterparts. Also, their parents' educational backgrounds were stronger, both in terms of having graduated from high school and in having attended college. Both their fathers and their mothers were more likely to be employed in a professional, technical, or managerial capacity.

The Associate of Science students, on the other hand, tended to be white, averaged about 26 years of age, and were as likely as not to be married. They tended to be self-supporting, had more dependents, and lived closer to the campus than did the Associate of Arts students. They were more likely to be part-time students, and greater percentages of them not only scored below 150 on the FTGT but also ranked in the lower 60% of their high school graduating classes than did the Associate of Arts students. Their parents were not so likely to have graduated from high school or attended college as were parents of their Associate of Arts

counterparts. The Associate of Science students' fathers were more likely to be employed in farming or machine work, and both their mothers and their fathers were less likely to be employed in a professional, technical, or managerial capacity.

Discussion and Analysis of Data on Associate of Arts
and Associate of Science Students, by Characteristics

By presenting the 2,905 student sample data on the basis of their distribution on a program-by-program basis within each characteristic, it is possible to show in a somewhat different light the tendencies of the Central Florida Community College students to have enrolled in the various program areas. For instance, Table 7 reflects the enrollment of the Associate of Arts students on the basis of their sex.

Although the overall distribution by sex was only slightly biased in favor of male students, there were three Associate of Arts programs in which the enrollment was predominantly male, i. e., Business and Management; Architecture and Engineering; and Physical Science, Agriculture, and Biological Science (Table 7). On the other hand, female students tended to enroll to the greatest extent in such programs as Home Economics and Education; Letters, Communications, and Library Science; Psychology, Public Affairs, and Social Sciences; Fine Arts and Foreign Languages; and the Health programs (pre-medical, pre-dental, etc.). These enrollment tendencies may reflect as much as anything else the employment opportunities available to the sexes within specific disciplinary areas, and to a certain extent traditional

Table 7

Distribution by Sex of Students Enrolled in Associate of Arts Programs
at Central Florida Community College, August 1971 to May 1973

Program	Sex	
	Female	Male
Business and Management	20.2	79.8
Architecture and Engineering	24.8	75.2
Fine Arts and Foreign Languages	56.5	43.5
Health	54.9	45.1
Home Economics and Education	63.3	36.7
Letters, Communications, and Library Sciences	60.9	39.1
Mathematics and Computer Science	50.0	50.0
Physical Science, Agriculture, and Biological Science	22.0	78.0
Psychology, Public Affairs, and Social Science	56.8	43.2
Interdisciplinary	46.6	53.4
All Associate of Arts Programs	47.2	52.8
All Programs	47.0	53.0

enrollment or non-enrollment, by sex, in various study fields.

Within the Associate of Science program areas the distribution of students by sex also reflects some rather wide variances, as shown in Table 8.

It is noteworthy that in two of the Associate of Science program areas the enrollment was primarily female, i. e., Health (70.8%) and Office (60%), while the enrollment tended to be primarily male in the Agriculture (91.3%), Technical (95.5%), and Law Enforcement (75.3%) programs. Here again both employment opportunities and tradition probably played significant roles in the decisions of the female and male students, while the nature of the work in agriculture and law enforcement also may have been a factor. On the other hand, although not all technical occupations are closed to women, the college has experienced little success in attracting female students to the programs covered by this classification. It is interesting that about one-fourth of the law enforcement students were females. Perhaps that career field is gradually overcoming some of the traditional taboos which previously had confined its enrollment almost entirely to male students.

With respect to the marital status of the students, Table 9 shows the status of those enrolled in the various Associate of Arts programs.

Utilizing as a base point the fact that 75% of all Associate of Arts students are single and 25% are married, the variances from program to program are not so great as they are on several other factors. It does

Table 8

Distribution by Sex of Students Enrolled in Associate of Science
 Programs at Central Florida Community College
 August 1971 to May 1973

Program	Sex	
	Female	Male
Agriculture	8.7	91.3
Health	70.8	29.2
Office	60.0	40.0
Unclassified Occupational	49.7	50.3
Technical	4.5	95.5
Law Enforcement	24.7	75.7
All Associate of Science Programs	46.9	53.1
All Programs	47.0	53.0

Table 9

Marital Status of Students Enrolled in Associate of Arts Programs
at Central Florida Community College, August 1971 to May 1973

Program	Marital Status	
	Single	Married
Business and Management	74.1	25.9
Architecture and Engineering	74.3	25.7
Fine Arts and Foreign Languages	82.3	17.7
Health	83.5	16.5
Home Economics and Education	70.7	29.3
Letters, Communications, and Library Sciences	82.6	17.4
Mathematics and Computer Science	75.0	25.0
Physical Science, Agriculture, and Biological Science	85.7	14.3
Psychology, Public Affairs, and Social Science	81.0	19.0
Interdisciplinary	69.3	30.7
All Associate of Arts Programs	75.0	25.0
All Programs	65.0	35.0

appear that the concentration of married students tends toward such areas as Home Economics and Education (29.3%) and Interdisciplinary (30.7%), while single students tend rather strongly to have enrolled in the Fine Arts (82.3%); Health (83.5%); Letters, Communications, and Library Sciences (82.6%); Physical Science, Agriculture, and Biological Science (85.7%); and Psychology, Public Affairs, and Social Science (81%). Students in the Home Economics and Education as well as the Interdisciplinary fields tend to be somewhat older than other students, and it may be that in this case age is an explanation of the larger number of married students.

The marital status of the students enrolled in the Associate of Science programs is shown in Table 10.

As a group, the Associate of Science programs have attracted more married students and students who were older than were the Associate of Arts students. However, even among the Associate of Science programs there were wide variances in marital status. Those in Law Enforcement (71.4%) and the Unclassified Occupational group (61%) showed a strong tendency toward being married, while those in Agriculture (78.3%), Office (72.5%), Technical (70.1%), and Health (63%) tended to be single. Those in both the Law Enforcement and Unclassified Occupational programs tended to be much older than other students, and here again the students' marital status appears to be a function of age.

Recently colleges and universities have become quite concerned

Table 10

Marital Status of Students Enrolled in Associate of Science Programs
at Central Florida Community College, August 1971 to May 1973

Program	Marital Status	
	Single	Married
Agriculture	78.3	21.7
Health	63.0	37.0
Office	72.5	27.5
Unclassified Occupational	39.0	61.0
Technical	70.1	29.9
Law Enforcement	28.6	71.4
All Associate of Science Programs	50.5	49.5
All Programs	65.0	35.0

about their ability to attract minority groups, not only to the institution, but also to specific programs. Inasmuch as blacks comprise about 25% of the total population of the primary area served by the college, it is interesting to note that only 16.6% of the student body is classified as black. Table 11 shows the racial distribution of students within the Associate of Arts program areas.

The percentage of black students enrolled in some programs was comparatively high, such as 31.8% in Psychology, Public Affairs, and Social Sciences, 25% in Home Economics and Education, and 23.2% in Letters, Communications, and Library Sciences. In other programs, however, the percentage of black students was low, with only 6.8% enrolled in Health, 6.9% in Architecture and Engineering, and 7.7% in Physical Science, Agriculture, and Biological Science.

As indicated in Table 12, there are also large variances in percentages of black students in Associate of Science programs, with the percentage ranging from 20.4% in the Unclassified Occupational program down to none in the Agriculture program. The tendency of black students to prefer certain programs and to avoid other programs may be due to such factors as the availability of employment for blacks in certain fields and not in others; the training and education of blacks prior to their college experiences; and the family backgrounds and expectations of blacks insofar as certain occupational or professional fields are concerned.

As noted by Sewell and Shah (32) in their 1968 study of Wisconsin

Table 11

Racial Distribution of Students Enrolled in Associate of Arts Programs
at Central Florida Community College, August 1971 to May 1973

Program	Race		
	White	Black	Other
Business and Management	85.1	11.3	3.6
Architecture and Engineering	79.2	6.9	13.9
Fine Arts and Foreign Languages	85.5	11.3	3.2
Health	91.7	6.8	1.5
Home Economics and Education	74.1	25.0	0.9
Letters, Communications, and Library Sciences	75.4	23.2	1.4
Mathematics and Computer Science	83.3	14.3	2.4
Physical Science, Agriculture, and Biological Science	87.9	7.7	4.4
Psychology, Public Affairs, and Social Science	66.9	31.8	1.4
Interdisciplinary	86.8	12.2	1.0
All Associate of Arts Programs	81.4	16.1	2.5
All Programs	81.2	16.6	2.2

Table 12

Racial Distribution of Students Enrolled in Associate of Science
Programs at Central Florida Community College
August 1971 to May 1973

Program	Race		
	White	Black	Other
Agriculture	100.0	0.0	0.0
Health	90.0	9.2	0.8
Office	82.4	16.4	1.3
Unclassified Occupational	78.0	20.4	1.6
Technical	87.5	10.2	2.3
Law Enforcement	88.3	11.7	0.0
All Associate of Science Programs	82.4	16.2	1.3
All Programs	81.2	16.6	2.2

students, the child's actual college attendance seems to be influenced by the educational attainment of his parents, with the attainment of one parent being no more important than that of the other. As indicated by the data shown in Table 13, nearly 40% of the fathers of Associate of Arts students had not completed high school. Among the Associate of Arts programs, however, there were some variances in this respect, with 45.4% of the fathers of Home Economics and Education students not having completed high school, and only 31% of the fathers of Mathematics and Computer Science students not having completed high school. On the other hand, having attended college were 33.3% of the fathers of the Mathematics and Computer Science students, but only 19.8% of the fathers of the Home Economics and Education students.

In contrast with these tendencies, there were 50.6% of the fathers of Associate of Science students who had not completed high school, this percentage representing a full 11% differential as compared with the figure for fathers of Associate of Arts students. Table 14 reflects the educational levels of the fathers of Associate of Science students, with variances in that field ranging from a low of 31.8% of Technical students' fathers to a high of 55.7% of Law Enforcement students' fathers who did not complete high school.

Thus, insofar as the influence of the fathers' educational attainment is concerned, it would appear that students having fathers with higher educational attainments tended to enroll in Associate of Arts programs, and students having fathers with lower educational attainments

Table 13

Education of Fathers of Students Enrolled in Associate of Arts Programs
at Central Florida Community College, August 1971 to May 1973

Program	Father's Education		
	Less than High School	High School	College
Business and Management	34.2	36.0	29.8
Architecture and Engineering	34.3	35.4	30.3
Fine Arts and Foreign Languages	37.1	32.3	30.6
Health	39.7	30.5	29.8
Home Economics and Education	45.4	34.8	19.8
Letters, Communications, and Library Sciences	34.3	41.8	23.9
Mathematics and Computer Science	31.0	35.7	33.3
Physical Science, Agriculture, and Biological Science	37.1	41.6	22.3
Psychology, Public Affairs, and Social Science	42.1	30.3	27.6
Interdisciplinary	40.9	29.8	29.3
All Associate of Arts Programs	39.7	33.5	26.8
All Programs	45.0	30.9	24.1

Table 14

Education of Fathers of Students Enrolled in Associate of Science
Programs at Central Florida Community College
August 1971 to May 1973

Program	Father's Education		
	Less than High School	High School	College
Agriculture	43.5	34.8	21.7
Health	42.0	36.1	21.9
Office	55.1	25.6	19.3
Unclassified Occupational	54.3	23.1	22.6
Technical	31.8	46.6	21.6
Law Enforcement	55.7	30.0	14.3
All Associate of Science Programs	50.6	28.2	21.2
All Programs	45.0	30.9	24.1

tended to enroll in Associate of Science programs. Within those areas it would be difficult to rank programs in the order of their difficulty, academically speaking, though it should be noted that such programs as Mathematics and Computer Science, Architecture and Engineering, Health, and the Technical programs do have reputations for their rigorousness of content. All of those programs seem to have attracted students having fathers with relatively high educational attainments.

The data on the educational backgrounds of students' mothers yield similar results. As shown in Tables 15 and 16, the mothers of Associate of Arts students have attained a higher level of education than have the mothers of Associate of Science students. In both areas the same programs, i. e., Architecture and Engineering, Mathematics and Computer Science, Health, and Technical can once again be cited as having attracted students whose mothers have above-average educational attainments.

With respect to the students' total scores on the Florida Twelfth Grade Test (FTGT), an analysis of the Associate of Arts students, as reflected in Table 17, shows some interesting comparisons. Having scored particularly high (over 350) on that test were students in such programs as Mathematics and Computer Science (38.7%), Health (36.8%), Architecture and Engineering (35%), and Physical Science, Agriculture, and Biological Science (35%). On the other hand, having scored less than 150 on that test were students in such programs as Psychology, Public Affairs and Social Science (29.1%), Home Economics and

Table 15

Educational Level of Mothers of Students Enrolled in Associate of Arts
Programs at Central Florida Community College
August 1971 to May 1973

Program	Mother's Education		
	Less than High School	High School	College
Business and Management	16.7	59.7	23.6
Architecture and Engineering	8.6	61.4	30.0
Fine Arts and Foreign Languages	19.6	55.4	25.0
Health	17.5	56.7	25.8
Home Economics and Education	19.5	55.7	24.8
Letters, Communications, and Library Sciences	17.2	56.9	25.9
Mathematics and Computer Science	8.1	59.5	32.4
Physical Science, Agriculture, and Biological Science	8.3	68.1	23.6
Psychology, Public Affairs, and Social Science	21.2	53.4	25.4
Interdisciplinary	20.1	50.6	29.3
All Associate of Arts Programs	17.7	55.9	26.4
All Programs	21.4	53.4	25.2

Table 16

Educational Level of Mothers of Students Enrolled in Associate of Science
Programs at Central Florida Community College
August 1971 to May 1973

Program	Mother's Education		
	Less than High School	High School	College
Agriculture	30.0	55.0	15.0
Health	23.5	47.1	29.4
Office	32.1	48.1	19.8
Unclassified Occupational	22.6	49.2	28.2
Technical	22.9	57.1	20.0
Law Enforcement	24.0	56.0	20.0
All Associate of Science Programs	24.8	50.1	25.1
All Programs	21.4	53.4	25.2

Table 17

FTGT Total Scores of Students Enrolled in Associate of Arts Programs
at Central Florida Community College, August 1971 to May 1973

Program	FTGT Total Scores		
	0-150	151-350	351-495
Business and Management	20.8	53.1	26.1
Architecture and Engineering	18.3	46.7	35.0
Fine Arts and Foreign Languages	20.9	56.1	23.0
Health	10.2	53.0	36.8
Home Economics and Education	27.4	51.5	21.1
Letters, Communications, and Library Sciences	25.1	41.5	33.4
Mathematics and Computer Science	9.7	51.6	38.7
Physical Science, Agriculture, and Biological Science	20.0	45.0	35.0
Psychology, Public Affairs, and Social Science	29.1	42.9	28.0
Interdisciplinary	17.5	47.6	34.9
All Associate of Arts Programs	21.0	49.2	29.8
All Programs	22.7	50.6	26.7

Education (27.4%), and Letters, Communications, and Library Sciences (25.1%).

These percentages may be compared with the 29.8% of all Associate of Arts students who scored higher than 350 and the 21% of the Associate of Arts students who scored less than 150 on the test.

In the case of the Associate of Science programs, shown in Table 18, there also appear to be some fairly wide variances. For instance, having scored less than 150 on the FTGT were 34.9% of the students in the Office program, 41.5% of those in the Law Enforcement program, and 53.4% of those in the Agriculture program. Thus Law Enforcement and Agriculture have attracted students who had tended to score lower on that test than did the average Associate of Science student.

Table 19 shows the rank of Associate of Arts program students in their high school graduating classes. The data indicate that having attracted students who had ranked fairly high in their high school graduating classes were such programs as Architecture and Engineering; Letters, Communications, and Library Science; Health; Fine Arts; and the Interdisciplinary group.

The Associate of Science programs, shown in Table 20, indicate that a fairly high percentage of those students (53.1%) ranked in the lower 40% of their high school graduating classes, with two programs, Unclassified Occupational and Law Enforcement, showing about two-thirds of their students in that category.

Table 18

FTGT Total Scores of Students Enrolled in Associate of Science
Programs at Central Florida Community College
August 1971 to May 1973

Program	FTGT Total Scores		
	0-150	151-350	351-495
Agriculture	53.4	33.3	13.3
Health	11.8	57.6	30.6
Office	34.9	48.7	13.8
Unclassified Occupational	11.0	45.2	43.8
Technical	20.4	59.2	20.4
Law Enforcement	41.5	46.3	12.2
All Associate of Science Programs	24.7	51.7	23.6
All Programs	22.7	50.6	26.7

Table 19

Rank in High School Graduating Class of Students Enrolled in Associate
of Arts Programs at Central Florida Community College
August 1971 to May 1973

Program	Rank in High School Graduating Class			
	0-40	41-60	61-80	81-100
Business and Management	41.9	21.8	10.5	25.8
Architecture and Engineering	32.5	10.0	10.0	47.5
Fine Arts and Foreign Languages	43.1	15.7	15.7	25.5
Health	43.3	20.7	14.4	21.6
Home Economics and Education	41.6	15.5	16.0	26.9
Letters, Communications and Library Sciences	36.4	12.7	7.3	43.6
Mathematics and Computer Science	23.1	23.1	15.4	38.4
Physical Science, Agriculture, and Biological Science	41.4	21.4	10.0	27.2
Psychology, Public Affairs, and Social Science	44.4	15.7	7.4	32.4
Interdisciplinary	47.4	16.6	10.0	26.0
All Associate of Arts Programs	42.5	17.0	11.6	28.9
All Programs	46.2	16.7	13.3	23.8

Table 20

Rank in High School Graduating Class of Students Enrolled in Associate
of Science Programs at Central Florida Community College
August 1971 to May 1973

Program	Rank in High School Graduating Class			
	0-40	41-60	61-80	81-100
Agriculture	15.0	20.0	30.0	35.0
Health	43.6	15.8	13.9	26.7
Office	41.7	21.2	22.7	14.4
Unclassified Occupational	66.5	11.2	11.9	10.4
Technical	35.4	24.6	23.1	16.9
Law Enforcement	65.4	17.3	15.4	1.9
All Associate of Science Programs	53.1	16.0	16.4	14.5
All Programs	46.2	16.7	13.3	23.8

Regarding the students' primary sources of financial support, comparisons of the ten Associate of Arts programs are shown in Table 21, and comparisons of the Associate of Science programs are given in Table 22. Included in each table is a column showing the percentage of students who were single. Slightly more than half of the Associate of Arts students relied on their parents for financial support, and generally there appeared to be a strong relationship between those students' marital status and their sources of financial support.

In the case of the Associate of Science students, the relationship was equally pronounced, although in the Technical program area, which consisted almost entirely of males, there appeared to be more than a normal tendency for them to be self-supporting. Relying on government support of various kinds were fairly sizeable percentages of the students in Law Enforcement, Mathematics and Computer Science, and the various Business programs.

Insofar as the ages of the students were concerned, Table 23 shows those of the Associate of Arts program students, and Table 24 shows the ages of the Associate of Science program students. In the Associate of Arts area the younger students seemed to be represented more than proportionally in the Health and Fine Arts and Foreign Languages fields. Older students seemed to be attracted to such programs as Architecture and Engineering, and Mathematics and Computer Science, although for most programs the deviation from the norm was relatively small.

Table 21

Comparison of Marital Status and Primary Source of Financial Support of Students Enrolled in Associate of Arts Programs at Central Florida Community College, August 1971 to May 1973

Program	% Single Students	Primary Source of Financial Support		
		Parents	Family	Government
Business and Management	74.1	47.3	32.4	20.3
Architecture and Engineering	74.3	51.9	34.2	13.9
Fine Arts and Foreign Languages	82.3	58.0	26.0	16.0
Health	83.5	61.2	28.1	10.7
Home Economics and Education	70.7	46.5	39.4	14.2
Letters, Communications, and Library Sciences	82.6	53.8	34.6	11.5
Mathematics and Computer Science	75.0	48.6	29.7	21.6
Physical Science, Agriculture, and Biological Science	85.7	50.0	34.2	15.8
Psychology, Public Affairs, and Social Science	81.0	53.7	35.2	11.1
Interdisciplinary	69.3	51.1	34.0	14.9
All Associate of Arts Programs	75.0	51.2	34.0	14.8
All Programs	65.0	46.8	38.1	15.1

Table 22

Comparison of Marital Status and Primary Source of Financial Support of Students Enrolled in Associate of Science Programs at Central Florida Community College, August 1971 to May 1973

Program	% Single Students	Primary Source of Financial Support		
		Parents	Family	Government
Agriculture	78.3	58.8	23.5	17.6
Health	63.0	47.3	41.9	10.8
Office	72.5	54.2	27.5	18.3
Unclassified Occupational	39.0	28.8	62.1	9.2
Technical	70.1	34.2	47.9	17.8
Law Enforcement	28.6	19.3	47.4	33.3
All Associate of Science Programs	50.5	37.6	47.5	14.9
All Programs	65.0	46.8	38.1	15.1

Table 23

Age of Students Enrolled in Associate of Arts Programs
at Central Florida Community College, August 1971 to May 1973

Program	Age		
	Under 21	21-44	Over 44
Business and Management	52.7	45.6	1.8
Architecture and Engineering	45.6	50.5	4.0
Fine Arts and Foreign Languages	69.3	30.6	0.0
Health	67.7	30.1	2.3
Home Economics and Education	53.7	44.1	2.2
Letters, Communications, and Library Sciences	57.9	40.6	1.4
Mathematics and Computer Science	50.0	45.2	4.8
Physical Science, Agriculture, and Biological Science	51.7	48.4	0.0
Psychology, Public Affairs, and Social Science	57.5	40.5	2.0
Interdisciplinary	53.1	43.6	3.2
All Associate of Arts Programs	55.0	42.6	2.3
All Programs	44.7	50.0	5.3

Table 24

Age of Students Enrolled in Associate of Science Programs
at Central Florida Community College, August 1971 to May 1973

Program	Age		
	Under 21	21-44	Over 44
Agriculture	60.9	34.8	4.3
Health	49.2	46.7	4.2
Office	58.1	39.4	2.5
Unclassified Occupational	15.1	72.1	12.7
Technical	45.5	50.0	4.5
Law Enforcement	18.2	74.0	7.8
All Associate of Science Programs	30.6	60.7	8.6
All Programs	44.7	50.0	5.3

Table 25

Occupations of Fathers of Students Enrolled in Associate of Arts
Programs at Central Florida Community College
August 1971 to May 1973

Program	Father's Occupation				
	Profes- sional	Clerical	Service	Struc- tural	Other
Business and Management	37.1	9.3	21.4	9.3	10.0
Architecture and Engineering	30.6	14.1	14.1	18.8	9.5
Fine Arts and Foreign Languages	33.3	13.0*	24.1	11.1	1.8
Health	35.4	10.6	9.7	13.3	17.7
Home Economics and Education	28.2	11.8	19.6	12.9	14.6
Letters, Communications, and Library Sciences	25.0	19.6	26.8	10.8	8.9
Mathematics and Computer Science	36.7	6.7	13.3	6.7	9.9
Physical Science, Agriculture, and Biological Science	27.8	13.9	19.4	6.9	15.3
Psychology, Public Affairs, and Social Science	28.0	7.6	29.7	6.8	11.8
Interdisciplinary	28.4	14.9	15.8	9.9	12.5
All Associate of Arts Programs	30.3	12.3	18.9	10.9	12.4
All Programs	28.6	11.4	19.0	10.2	14.8

The ages of the Associate of Science students varied considerably more from program to program than did those of the Associate of Arts students. Thus the under-21 group ranged from 60.9% in the case of the Agriculture students to 15.1% for the Unclassified Occupational students. Many Associate of Science students do not attend college until they have been employed for a number of years, with this being particularly applicable to the Law Enforcement, Health, and the Unclassified Occupational groups.

Beyond the characteristics that have already been discussed, an analysis of the occupations of the fathers and mothers of the students enrolled in various programs would seem in order. Table 25 shows the occupations of the fathers of the students enrolled in the Associate of Arts programs from August 1971 to May 1973.

Within those programs it would appear that fathers with professional, technical, or managerial backgrounds were well represented by students who were enrolled in such areas as Business and Management; Health; and Mathematics and Computer Science. Students whose fathers had clerical backgrounds predominated in the area of Letters, Communications, and Library Science; and Psychology, Public Affairs, and Social Science. Only in the area of Architecture and Engineering did fathers with structural backgrounds predominate, and retired fathers seemed most prevalent, percentage-wise, in the case of the Mathematics and Computer Science program.

Table 26 reflects the occupations of the fathers of students

Table 26

Occupations of Fathers of Students Enrolled in Associate of Science
Programs at Central Florida Community College
August 1971 to May 1973

Program	Father's Occupation				
	Profes- sional	Clerical	Service	Struc- tural	Other
Agriculture	18.8	12.4	6.3	6.3	50.0
Health	26.3	11.1	20.2	11.1	16.1
Office	28.1	9.9	19.0	7.4	19.9
Unclassified Occupational	26.4	9.8	18.1	6.5	17.3
Technical	27.0	5.4	20.3	13.5	23.0
Law Enforcement	15.1	9.4	17.0	13.2	20.8
All Associate of Science Programs	25.7	9.6	18.5	8.7	19.1
All Programs	28.6	11.4	19.0	10.2	14.8
					6.3
					15.2
					15.7
					21.8
					10.8
					24.5
					18.4
					16.0

enrolled in the Associate of Science programs over the same period. Although there was no heavy concentration of fathers with professional, technical, or managerial backgrounds in any of those programs, both Agriculture and Law Enforcement were under-represented in that respect. Fathers with clerical occupations were well distributed through five of the programs, but were under-represented in the Technical program. Fathers with service occupations also were well distributed over the programs, except for some under-representation with respect to the Agriculture program. Fathers with structural backgrounds were well represented in the Health, Technical, and Law Enforcement programs, and retired fathers seemed to predominate in the Unclassified Occupational and Law Enforcement fields. Some 50% of the fathers of Agriculture students represented "other" occupations, with most of that group being farmers.

An examination of the mothers' occupations of the Associate of Arts students (Table 27) reveals that mothers with professional, technical, and managerial backgrounds predominated in such areas as Fine Arts and Foreign Languages; Mathematics and Computer Science; and Physical Science, Agriculture, and Biological Science. Mothers with clerical backgrounds were well represented in the Health, Mathematics and Computer Science programs, while those with service occupations predominated in the area of Home Economics and Education. In three areas, i. e., Architecture and Engineering; Health; and Psychology, Public Affairs, and Social Science, more than 55% of the

Table 27

Occupations of Mothers of Students Enrolled in Associate of Arts
Programs at Central Florida Community College
August 1971 to May 1973

Program	Mother's Occupation					
	Profes- sional	Clerical	Service	Other	None	Retired
Business and Management	15.8	11.6	15.8	4.1	47.9	4.8
Architecture and Engineering	13.3	8.0	17.3	2.7	56.0	2.7
Fine Arts and Foreign Languages	19.0	17.2 *	8.6	0.0	51.7	3.4
Health	8.7	22.2	6.3	1.6	57.9	3.2
Home Economics and Education	16.4	18.2	19.9	3.5	35.9	2.1
Letters, Communications, and Library Sciences	13.3	18.3	16.7	1.7	48.3	1.7
Mathematics and Computer Science	20.0	20.0	8.6	0.0	42.8	2.6
Physical Science, Agriculture, and Biological Science	23.3	12.3	9.6	0.0	52.1	2.7
Psychology, Public Affairs, and Social Science	15.3	8.1	11.3	0.8	59.7	4.8
Interdisciplinary	14.6	18.5	13.7	1.4	42.8	3.0
All Associate of Arts Programs	15.3	16.1	14.1	2.1	49.1	3.3
All Programs	13.2	15.5	14.4	2.4	50.1	4.4

mothers had no occupations. On the other hand, the mothers of Home Economics and Education students were the most likely to be employed in some capacity, with some 58% of them in that category, compared with an Associate of Arts program average of 47.6%.

Table 28, which shows the occupations of Associate of Science students' mothers, indicates that 58.6% of the mothers either reported no occupation or were retired. It does appear that those mothers with professional, technical, or managerial backgrounds predominated in the Health program; those with clerical backgrounds in the Agriculture program; those with service occupations in the Law Enforcement program; and those with no occupations at all in the Technical field.

What can be said regarding the influences of family background, intelligence, and parents' occupations on the program choices of students at Central Florida Community College? Berelson and Steiner (3) have concluded that lower class youths seem to be much more restricted in their occupational choices than are upper class youths. The data reviewed in this chapter seem to indicate that students whose parents represented the professional, technical, or managerial occupations tended to enroll in Associate of Arts (college parallel) programs, while those whose parents represented other occupational areas, such as clerical and service, tended to enroll in Associate of Science (primarily two-year occupational) programs. Also, as noted in the preceding analysis, the FTGT total scores of Associate of Arts students were significantly higher than were the scores of the Associate of Science students.

Table 28

Occupations of Mothers of Students Enrolled in Associate of Science
Programs at Central Florida Community College
August 1971 to May 1973

Program	Mother's Occupation				
	Profes- sional	Clerical	Service	Other	None
Agriculture	5.3	26.3	10.5	5.3	52.6
Health	14.6	17.5	11.7	2.9	50.5
Office	9.4	12.3	15.2	2.9	57.3
Unclassified Occupational	11.1	13.4	15.0	2.5	48.5
Technical	8.5	15.5	7.0	2.8	64.8
Law Enforcement	3.4	10.2	20.3	5.1	54.2
All Associate of Science Programs	10.3	14.0	14.2	2.9	52.5
All Programs	13.2	15.5	14.4	2.4	50.1
					0.0
					2.9
					2.9
					9.5
					1.4
					6.8
					6.1
					4.4

Trent and Medsker (37) had concluded that there is no statistically significant relationship between socio-economic status (in that case, father's occupation) and occupational choice for any of the groups whom they examined. On the other hand, the data generated by this study indicate that in several program areas there was a tendency for Central Florida Community College students to enroll in those fields in which their parents had been active. This seemed the case with such programs as Business and Management; Architecture and Engineering; Health; Mathematics and Computer Science; Agriculture; and Technical. With respect to other programs, however, there was no observable relationship between parent's occupation and student's choice. In fact, in the case of those programs in which such a relationship does seem to exist, the tie is at best a rather broad one.

Although Sewell, Haller, and Strauss (30) concluded that the social status of the family tends to be co-equal to intelligence with respect to students' aspirations, Rosen (28) may have exhibited admirable perspicacity in cautioning investigators against singling out any one demographic factor as the sole determinant of student motivation.

Class Profiles

Representing a further implementation of the techniques utilized in the development of the student characteristics profiles, the preparation of characteristics profiles of individual classes was viewed

by a majority of the faculty at the very least as being a worthwhile approach to the dissemination of student background information. Though not measurable in absolute terms, however, there seemed to exist among some faculty an antipathy to any attempt on the part of administrators or other faculty to encourage instructional improvement. Thus, as indicated in the Chapter II presentation of data, there were five faculty members who were unable to perceive any way in which such class profiles could help to improve their instruction.

All except two of the 27 faculty were interested enough in the profiles to review them, in some cases more thoroughly than in others. Four faculty indicated that they would have liked to have had someone explain certain aspects of the data to them, and this figure might have been somewhat larger had not the investigator made his services available to as many faculty as he could reach. However, the memorandum which accompanied the profiles at the time of their distribution to the faculty was designed to answer many questions which otherwise might have arisen. Thus, all but one faculty member indicated that they understood the data, and the person who was not able to understand the data had had no experience in reading computer printouts.

With respect to the extent to which the faculty perused the class profiles, it should be noted that seven (26%) reported that they had studied the data, and six (22.2%) said that they had attempted to relate the profile information to their own assumptions regarding their classes. Eleven other faculty (40.7%) indicated that they had reviewed the data,

and four of those 11 said that they had placed the printouts in their files. Of the remaining faculty, only two (7.4%) indicated that they had not found time to review the data. Thus, the initial response of the faculty to the class profiles seems to have been a receptive one.

Insofar as the faculty's inclination to modify their teaching methods was concerned, there were four instructors who indicated that they had proceeded to make such changes based on the student characteristics profiles with which they had been provided. This response is probably not too surprising in view of the fact that the turn-around time in a summer term is shorter than during a full-length semester. It is known that at least three other faculty were concerned enough about certain aspects of their classes' backgrounds to obtain additional data on specific students included in the overall class profiles. It should be noted that at the time the profiles were distributed approximately two-thirds of the class meetings were yet to be held. However, because of the compressed summer schedule, these sessions would be concluded within a four-week period following the faculty's receipt of the class profiles.

Thus, it would seem that faculty, rather than making significant instructional changes during the term then being taught, would be more likely to consider what changes would be feasible if more time were available. With this in mind, 18 faculty (66.7%) indicated that they were considering making such changes. Of that number, 13 (48.1%) said that they had definite intentions to do so, and the remaining five

(18.5%) indicated that such changes were a possibility.

Regarding the specific changes which were being considered, each faculty member was asked to indicate as many of the ten suggested modifications as he felt he would be willing to adopt. More than any other change, the need for increased help for individual students was indicated, with slightly more than half of the faculty feeling that such a change was desirable. Next in order of preference, and indicated by 12 (45.4%) faculty members, was increased tutoring for the students. Beyond this, there were eight faculty (29.6%) who felt that increased laboratory time was desirable, and eight who felt that self-paced instruction should be used. The latter suggestion was sanctioned by several faculty who were vehement in their feeling that the ultimate solution to the age-old instructional problem lies in the widespread use of self-paced instruction, with no time limit being placed on the satisfactory completion of a course.

Other suggestions received substantial backing, with eight faculty (29.6%) feeling that more audio-visual aids should be used; seven faculty (25.9%) feeling that taped lectures might prove useful to their students; six faculty (22.2%) proposing to use more individual study projects; and five (18.5%) faculty evidently feeling that increased class discussion would enhance their instructional methods. Although covering a wide variety of possible instructional improvements, some 15 faculty (55.5%) felt that, overall, they should be using a greater variety of instructional methods.

In all, there were 18 faculty members who perceived a need for at least one change in their own teaching methods. This represents 66.7% of the respondents and would seem to indicate an awareness of their not having utilized as wide a variety of instructional strategies and aids as they might have used.

Instructional improvements, of course, need not be restricted to changes in classroom techniques or strategies. Knowledge of students' personal problems, and learning difficulties, which frequently are related to their family backgrounds, often can furnish a key to the instructor's better understanding his students' learning difficulties. Thus it is noteworthy that eight faculty members (29.6%) felt that the data might well lead to an improved relationship with their students -- one likely to contribute to the improvement of instruction. On the other hand the remaining 19 faculty members (70.4%) were unable to perceive how the student characteristics data could in any way lead them to an improved relationship with their students, at least outside the traditional instructional situation.

As to the usefulness of specific student characteristics in the improvement of instruction, the faculty members were by no means in agreement. Although 11 instructors (40.7%) could find no fault with those characteristics comprising the class profiles, the remaining 16 (59.3%) had reservations about one or more characteristics. Yet there was no consistency in their criticism, for only a few felt that any one characteristic was unnecessary. Several faculty noted that visually

observable characteristics, such as race and sex, and to a lesser extent age, could have been omitted from the profile. In retrospect, however, it would seem that any faculty member, looking back at the characteristics of classes taught during past years, or attempting to compare the profile of one class with that of another, would find it advantageous to have available relatively complete data on each group, and not to have to search elsewhere for the missing links. Such longer-range considerations apparently did not occur to all faculty.

A few faculty felt that all of the data included on the computer printouts are available to them through student personnel records. In the broad sense this is true. However, information on students usually can be obtained only through a very time-consuming review of the students' personal files, with the collection of complete data on all of an instructor's students available only after an exhaustive search of student folders. Realistically such obstacles are not conducive to instructors compiling such information on their own.

There were numerous suggestions regarding the improvement of the profile data. Other than a few requests for students' grade point averages and for supplementary scores made on tests other than the FTGT, however, the primary suggestion for the improvement of the data dealt with the need for information on individual students. To provide such a breakdown on each class could require literally thousands of computer printout pages, a situation fraught with logistical and cost problems. However, it would be possible to provide faculty with such

data in coded form, with each instructor's classes, shown student by student, being presented on no more than a page or two of computer printouts. Thus the instructor would need to utilize only a coding sheet to interpret all of the data on each of his students.

Even with the present program's perceived shortcomings, 70.3% of the faculty found the data useful enough to indicate that they would like to continue to receive such information as soon after the beginning of each semester as possible.

One aspect of the study which has not yet been commented upon relates to the variances in the various departments' or disciplinary areas' perceptions of the usefulness of the data. Table 29 illustrates those variances.

From the data shown in Table 29 it would appear that certain disciplinary areas are less amenable to change than others are. It is evident that those teaching in the Communications, Humanities, and Music fields (all of which comprise the college's Fine Arts Division) seem to reflect either a somewhat negative or a completely negative reaction to the possible usefulness of student characteristics profiles in the improvement of instruction. On the other hand, faculty teaching in the other fields generally felt that the data could be advantageously used in modifying their instructional strategies. The two instructors in Basic Education, which is primarily a self-paced learning situation, were quite enthusiastic about the availability of student characteristics profiles and about the potential of those profiles to assist them in

Table 29
Identifiable Variances in Faculty Intentions to Utilize Class Profile
Data in Modifying Instructional Methods

Program or Disciplinary Area	Intend to Use the Data	Possibly Will Use the Data	Unable to Perceive Any Use for the Data	
			Not Com- pletely Negative	Negative
Applied Sciences	3		1	1
Business and Social Sciences	4	1	1	
Communications			1	2
Humanities and Music			2	1
Science	3	1		1
Mathematics	1	2		
Basic Education	2	-	-	-
Totals	.13	4	5	5

improving their instructional techniques and in modifying their strategies.

The review of literature (Chapter I) did not reveal any prior studies parallel to the one recently concluded at Central Florida Community College. It does seem likely, however, that student characteristics profiles, particularly class profiles, can be used advantageously by faculty who are willing not only to analyze such data but also to implement their findings in terms of modifying their instructional techniques.

CHAPTER IV SUMMARY, CONCLUSIONS, AND IMPLICATIONS

Concept and Scope of the Study

Much is known about the relationships between student ability and learning. However, the knowledge of student characteristics and their relationships with the learning process is not so complete, nor is the process by which student characteristics data can be utilized in improving instruction too well understood.

The purpose of this study was to determine whether faculty who had been provided with information regarding the characteristics of their students and their classes were both willing and able to utilize such data in the improvement of their instruction.

The initial phase of the study was designed to determine whether there were significant differences between the profiles of the Associate of Arts and the Associate of Science students, as well as between the profiles of the students enrolled in the major fields of study in each of those areas. This determination was based on characteristics profiles of the students enrolled in all of the programs at Central Florida Community College from August 1971 to May 1973.

The second part of the study saw the development of a student characteristics profile for each credit class being taught by the

college's faculty during Term III-B, 1974. That part of the study was designed to determine how the faculty perceived the usefulness of the profiles, how they felt the profiles could be improved, and how the profiles could be utilized in the modification of instructional strategies and the improvement of instruction.

Data regarding both parts of this study were presented in Chapter II and were analyzed in Chapter III. Conclusions, both definitive and tentative, will be discussed in this chapter.

Conclusions

As noted in Chapters II and III, data generated by both parts of this study were sufficiently complete to enable specific conclusions to be reached in the case of the total college student characteristics profiles, and tentative conclusions in the case of the student characteristics class profiles.

With respect to that part of the study which dealt with the preparation of the student characteristics profiles covering all or portions of the 2,905 students admitted to Central Florida Community College between August 1971 and May 1973, it is possible to draw the following conclusions:

- 1) There were differences between the characteristics of the students who have enrolled in Associate of Arts programs and those who have enrolled in Associate of Science programs. The Associate of Arts programs as a group tended to attract larger percentages of students who had scored above 350 on the Florida Twelfth Grade Test and who had

ranked in the upper 40% of their high school graduating classes than had their Associate of Science counterparts. A greater percentage of Associate of Arts students' parents had engaged in professional, technical, or managerial occupations. Also, a greater percentage of Associate of Arts students were likely to be single, they tended more to rely on their parents for financial support, and they were about three years younger than were the Associate of Science students.

2) Within the Associate of Arts and the Associate of Science areas there were differences in the characteristics of the students who tended to enroll in specific programs. For instance, in the Associate of Arts area:

- a) The students who tended to enroll in the programs in Architecture and Engineering and Mathematics and Computer Sciences were those who ranked higher on the characteristics related to intelligence; whose parents were more likely to be associated with professional, technical, or managerial occupations; and whose parents had attained higher levels of education.
- b) Students who tended to enroll in the programs in Business and Management; Health; Letters, Communications, and Library Sciences; Physical Sciences, Agriculture, and Biological Sciences; Fine Arts and Foreign Languages; and the Interdisciplinary field were those who ranked slightly lower in intelligence-related characteristics; whose parents were

engaged in a fairly well-balanced mixture of professional, clerical, structural, and service occupations; and whose parents had average educational backgrounds.

c) Students who tended to enroll in the programs in Home Economics and Education; and Psychology, Public Affairs, and Social Sciences, were those who ranked lowest in intelligence-related characteristics; whose parents were more likely to be engaged in service and clerical occupations; and whose parents had somewhat below-average educational backgrounds.

3) With respect to the Associate of Science area, it is also possible to reach some conclusions regarding what types of students have enrolled in specific programs:

a) The Health and Technical programs, and to the extent data were available on it, the Unclassified Occupational program, seem to have attracted students who exceeded the Associate of Science norms (but not necessarily the college norms) for intelligence-related characteristics, as well as for parental educational attainment.

b) The programs in Agriculture, Office, and Law Enforcement seem to have attracted students whose intelligence-related characteristics were somewhat below the Associate of Science norms and the college norms, and whose parents had relatively low levels of educational attainment. Of course, any classification system such as this must measure general tendencies

only, and must overlook exceptions within specific program areas.

4) With respect to that part of the study pertaining to individual class profiles, the following tentative conclusions can be reached:

a) Faculty, having been provided with characteristics profiles on their classes, tended to review such data with interest, and in at least 50% of the cases they attempted to relate the data to their own pre-conceptions of their classes' strengths and weaknesses.

b) Although some faculty were willing to make changes in their instructional strategies following their reviews of such data, most preferred to spend more time in evaluating the profiles before making any changes.

c) Two-thirds of the faculty felt that a need for instructional modifications was indicated by the data and stated that they were considering making one or more significant changes in their strategies.

d) About 70% of the faculty indicated that they would like to continue to receive class profile data as soon after the beginning of each semester as possible.

e) A 30% minority of the faculty felt that the data suggested a need for other than instructional changes in their relationships with their students.

f) Although 41% of the faculty had no suggestions for improving

the class profile data, an equal proportion made one or more suggestions for the modification of the profiles.

g) Some 18% of the faculty were unable to perceive any way in which such data could be useful to them, nor did they have any suggestions for changes.

h) Although most academic areas were receptive to the use of the class profiles, the Fine Arts Division was almost completely negative in its feelings about the usefulness of the class profiles in the improvement of instruction. However, several of that division's instructors indicated that their views should not be construed as final, and they indicated that they would be interested in reviewing characteristics profiles of their individual students if such profiles could be provided to them.

Implications

The student characteristics data accumulated during the 1971-1973 period made it possible to construct rather complete profiles on the students enrolled in the college's programs and major fields of study. As the college's data-gathering procedures are further refined, it should be possible within a few years both to provide the faculty and the administrative officers with more complete profiles, and to implement a program of regular reviews and evaluations of the types of students who are enrolling in the various program areas. The predictive capabilities of such current profile data would be considerable, but more importantly the availability of such information would enable the college to identify

areas of study which appeared to be either over- or under-represented in terms of their enrollment of minority groups, certain age groups, females or males, students who had done well in high school or had scored well on standardized placement tests, or students with various other strengths or weaknesses. Already the data have indicated that relatively few students over the age of 44 have enrolled in the college; that black students have not enrolled in proportion to their representation in the county; that few black students have enrolled in certain programs; and that almost no female students have enrolled in certain programs.

There are also some implications in terms of the results of the class profile portion of the study. For instance, it would appear that conditions are not optimum in every disciplinary area for the use of such class profiles in the improvement of instruction. Some instructors feel that already they know a great deal about their students and that they have all along been tailoring their instructional strategies and methods to the needs of their classes. Too, some faculty may feel that the class profile data were not complete enough for them to be certain of the extent of the differences in their students' backgrounds and characteristics. Yet, in the case of a few instructors there may also be some antagonism toward what they regard as administrative meddling in the instructional process, even though no pressure was imposed on them to make instructional changes.

Suggestions for Additional Research
at Central Florida Community College

In addition to the college's continued preparation of student characteristics profiles, preferably on an annual basis, there should also be some further exploration of the usefulness of class profiles in the improvement of instruction.

It would seem appropriate that class profiles be prepared as soon after the beginning of the next semester as possible, and that, following a brief explanation of how to interpret the data, the faculty be left to their own discretion regarding their use of the profiles. A follow-up survey could be utilized, involving only those faculty who were interested in commenting on their perceptions of the data and its uses. The results of the survey should be communicated to the entire faculty, and the experiment should be evaluated thoroughly by the college's Academic Affairs Committee in terms of a cost-benefits approach.

Recognizing the fact that student characteristics profiles and class profiles are not necessarily the only means by which instruction may be improved, there are several other approaches that need to be considered. For instance, the college could conduct a study of the methods of instruction most favored by students enrolled in certain disciplinary areas. Concomitantly, it could ascertain whether the faculty in each of those areas were utilizing instructional techniques most acceptable to, or favored by, a majority of the students in those fields. Utilizing the Myers-Briggs Type Indicator, many colleges

already have conducted studies along such lines.

It may also be feasible to combine the use of student characteristics profiles and the Myers-Briggs Type Indicator in an effort to ascertain the relationships between student profiles and preferred methods of instruction. In this respect, then, a correlation study could be done which would compare class rankings on a characteristics profile basis with the preferences of those classes for being taught under specific instructional conditions and utilizing specific instructional techniques.

Experiments of the above type tend to take considerable time, particularly when the outputs in terms of increased student understanding of subject matter, improved grades, or the enhancement of students' abilities to perform certain functions need to be measured and compared with student outputs prior to the implementation of instructional improvements of the type suggested by such a study.

The acquisition of as much information as possible regarding students' learning preferences is an essential part of cognitive mapping, and, even though considerable progress has been made in that field, much more experimentation is needed. A small college, though it may not be able to afford the luxury of cognitive mapping, should be in a position to experiment, at minimum cost, with the improvement of instruction based on its use of student characteristics data already at its disposal.

APPENDIX

Questionnaire on Student Characteristics Profiles

1. Did you understand the data? Yes _____ No _____
2. Would you have liked someone to explain the data to you? Yes _____ No _____
3. What did you do with the profile data after you received it? _____

4. As a result of having received the data have you modified your teaching techniques in any way? Yes _____ No _____ Please describe briefly any changes _____

5. As a result of having received the data, are you considering making any changes in your teaching methods? Yes _____ No _____
6. Do the data suggest a need for any of the following instructional changes:

(a) More help for individual students	Yes _____ No _____
(b) Self-paced instruction, with each student progressing at his own pace	Yes _____ No _____
(c) Increased tutoring	Yes _____ No _____
(d) More laboratory time	Yes _____ No _____
(e) The use of more audio-visuals	Yes _____ No _____
(f) Taped lectures for review purposes	Yes _____ No _____
(g) More individual study projects	Yes _____ No _____
(h) Increased class discussion	Yes _____ No _____
(i) Less class discussion	Yes _____ No _____
(j) Overall, a greater variety of instructional methods	Yes _____ No _____
7. Other than in teaching methodology, do the data suggest any other desirable changes in the relationship between you and your students? Yes _____ No _____
If yes, please specify _____

8. Were there any data which you did not find particularly useful? Yes _____
No _____ If yes, please specify _____

9. Were there additional data you would like to see included in these profiles?
Yes _____ No _____ If yes, please specify _____

10. Would you like to continue to receive information of this type at the beginning of each term? Yes _____ No _____

Your name, please _____

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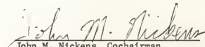
BIOGRAPHICAL SKETCH

H. Lynn Miller was born on October 7, 1923, in Newark, N. J. He attended public schools in New Jersey until 1937, at which time his parents moved to Atlanta, Ga. In that city he graduated from Boys' High School in 1941, and he served in the Army of the United States from 1943 to 1946. He received the Bachelor of Science in Industrial Management degree from the Georgia Institute of Technology in 1948, and the Master of Science in Industrial Management degree from that institution in 1955. From 1948 to 1954 he was employed as a credit analyst by the Citizens and Southern National Bank in Atlanta. In 1956 he joined the faculty of the Georgia Institute of Technology as an instructor in corporation finance, labor relations, and economics. He was employed in that capacity until 1962, except for two years during which he pursued graduate studies in economics at the University of Florida. Since 1962 he has been a member of the faculty at Central Florida Community College, first as an instructor, later as a department chairman, and since 1967 as director of that college's division of Business and Social Sciences. From 1972 to 1974 he directed the college's institutional self-study. He is an Episcopalian, a Rotarian, and a director of the Marion County Teachers Credit Union. In 1956 he was married to the former Joyce McKerrow, and they have one child, Michael, who was born in 1966.


I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.


James L. Wattenbarger, Chairman
Professor of Education

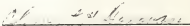
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John M. Nickens, Cochairman
Assistant Professor of Education

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

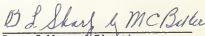

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I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.


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December, 1974


Dean, College of Education

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